Department of Architecture and Built Environment



Designing museums as cross-cultural contact zones: the Narrative-oriented Metaphor from the inside-out

Research on the narrative context of cultural-historical museums in the social context of "Belt & Road Initiative"

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Abstract

The “Belt and Road Initiative” (B&R for short) is an essential pillar of the Chinese “going out” and “bringing in” diplomatic strategy proposed by President Xi Jinping in 2013. It was called the most significant regional cooperation platform at present due to its impact on international relations. On the one hand, it can promote the economic prosperity and regional cooperation of countries participating in B&R. On the other hand, it can provide an inclusive platform for cultural exchanges and mutual learning between each country. As most of the programs and projects are government-to-government, it is necessary to find a way to communicate with the public to achieve people-to-people bonds.

For cross-cultural communication, this research focuses on the museums, especially the cultural-historical museums that contain and share many memories and stories along the Silk Roads [1] throughout history. Scholars have explored the idea that museums serve as educational institutions during the last decades. The museum is still considered a didactic institution in China and aims at collection display. This study claims that the museums in B&R are cross-cultural contact zones. [2] So museum design emphasises communication in a way that is highly interpretable by visitors from different cultural backgrounds. Based on this research background, the author explores the narrative – as the common attribute of architecture and exhibition language, and more importantly, how to convey it through the architect’s discourse. In particular, the author examines how a cross-cultural museum is an ideal place for visitor’s communication.

[1] Generally speaking, it was named “Silk Road”. The “Silk Roads” here corresponding to Peter Frankopan’s *The Silk Roads: A New History of the World.* The concept of “Silk Roads” refers to a network.

[2] The concept derived from James Clifford’s “Museum as contact zones”. In *Routes: Travel And Translation In The Late Twentieth Century.* Cambridge: Harvard University. 1997, pp. 188-219.

The current researches on the museum usually separate the architectural language from the museum studies. Although narrative has been applied in exhibition design and architectural design, respectively, there is still a gap. To fill this gap, the author claims narrative-oriented design for cultural-historical museums in B&R. And how the architect's discourse can enhance the transmission of museum narrative. The desired outcome of this research is to propose a design guideline for architects, especially Chinese architects if they have the opportunity to design museums in B&R countries. Moreover, the findings of this study could support cross-cultural communication and the identity of museums under the B&R background.

To explore the questions, the author reviewed the theoretical framework of structuralist linguistics and semiotics as the foundation of architectural language. Then, the author proposed the narrative-oriented metaphor as a design approach to link the architecture to social and narrative context. The case studies of the Mary Rose Museum and the Ashmolean Museum aims to examine its improvement on visitor's accessibilities.

Keywords: B&R Initiative; narrative-oriented design; from the inside-out; cross-cultural contact zone; metaphorical expression; conceptual cognition.

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Chapter 1 Introduction

1.1 Preface

This study focuses on designing museums in the context of the "Belt and Road Initiative". First of all, this study originates from my working experience. After graduating from the University of Nottingham, I started working at Zhongxu Planning & Architecture Design, and it belongs to China Architecture Design & Research Group. During the one-year work, I was mainly involved in the design projects of public cultural institutions such as museums, galleries and cultural centres. This experience gave me a particular understanding of the general design process of museums in China, which contributed to deciding my research topic. Also, the design projects became small cases in this study to reflect some practical issues for museum design.

Besides, several projects I participated in during my PhD are critical to building my knowledge and framework for my study. For example, the temporary exhibition during the summer of 2017 in the Wollaton Hall - *Dinosaurs of China: Ground Shakers to Feathered Flyers*, provided an opportunity to rethink the relationship between the exhibition and the specialization of narrative. The temporary exhibition also made me realise the importance of audiences participation and engagement. The visitor's accessibility should become a factor to evaluate the museum's narrative and design. The conceptual design and the script of Mangrove Museum, Shenzhen, focuses on the storytelling of a museum and its combination with architectural space. This project made me aware that the design and exhibition may become an integrated narrative system.

Except for exhibition and museum design, I took part in a field study in China. I participated in the *2nd Sino-Britain Exhibition Curator Training Camp*, where I met curators, designers and architects. I interviewed them to discuss the issues between museum architecture and exhibition design. After that, I went to Xinjiang with Dr

Wang Qi in 2018. It was a public service event for primary school students in Xinjiang – a crucial geographical point on the Silk Roads. The event aimed to teach them about various fields of knowledge. Through the whole event, I learned more about history and culture in Western China and the gap between the construction of museums in western and eastern China.

These projects and field trips have expanded my knowledge from both a practical and theoretical perspective and helped to define my research topic. By analysing the characteristics of the designing process of museums in China, and the opinions from museum professions and curators, the research theme can be decided from the macro perspective of B&R.

1.2 Background and research objects

The Belt and Road Initiative is a global infrastructure development strategy adopted in 2013 to invest in nearly 70 countries and international organisations.[3] It relates to the historical *Silk Roads* that cross the Eurasian continents. Compared with research on infrastructure networks, trade investment and sustainable energy, few studies have focused on cross-cultural communication between the regional public, especially through museums in this background.

As cultural diversity is an inevitable issue that will arouse misunderstanding, cultural conflicts, and cultural enrichment, the challenges of the museums in the context of B&R are apparent. Terry L. Cross defined a concept of *cultural competence*[4] to

[3] Belt and Road Initiative, from Wikipedia, the free encyclopaedia [online]. Available at: https://en.wikipedia.org/wiki/Belt_and_Road_Initiative. Accessed date: 12th Oct, 2016.

4 Cultural competence can be viewed along a six-point continuum: cultural destructiveness, cultural incapacity, cultural blindness, cultural pre-competence, cultural competence, and cultural proficiency (Cross et al., 1989). Cultural destructiveness refers to groups who seek to destroy other groups, such as by genocide. Cultural incapacity refers to a perspective that views certain groups as inferior and others as superior. Cultural blindness refers to a tendency to ignore cultural issues and assume that everyone is the same. Cultural pre-competence refers to the recognition that cultural differences exist, but an inability to engage competently with people from varying backgrounds. Cultural proficiency refers to individuals who are culturally competent and offer training to increase other's cultural competence.

describe a system (relating to attitude, behaviour and policies) that can allow working effectively in cross-cultural situations (Cross et al., 1989, pp. 13-14). Museums along the Silk Roads are included, and they are considered symbolic spaces for measuring the values and identity of the societies along the Silk Roads. Although China is the dominant of B&R, it still needs to improve cultural pre-competence and cultural proficiency, according to Terry's theory. Hereinto, the cultural pre-competence means China still needs to build the platform for speaking up for herself. In terms of cultural proficiency, many countries in B&R were colonies in history, so museums need to interpret from the perspective of decolonisation and maintain a relatively neutral attitude to convey information both for Chinese and other cultures.

Under the influences of B&R, Central Asia is soaring in the global heritage sector. Heritage sites in Uzbekistan, Kazakhstan, Georgia, and others are becoming hubs of cooperation with related organisations to preserve, manage, and develop the Silk Road's material culture. For example, universities in China, UK and Japan are working together, and the EU is funding projects, with coordination provided by a UNESCO office located in Tashkent, Uzbekistan (Winter, 2020).

According to the museum statistics along the Silk Roads from the *United Nations Educational, Scientific, and Cultural Organization* (UNESCO), the museums along the Silk Roads have a significant role.

> Museums are places of cultural heritage, ensuring the continuity between the past and the innovations of today. They are also centres of learning and discovery, and are a tangible point of contact for local communities with their cultural roots, as well as acting as a hub for meeting and appreciating the cultures of others. As such, museums have a great potential to contribute to the social, cultural and economic development of the communities they reflect.[5]

[5] Silk Roads Programme. Available at: https://en.unesco.org/silkroad/silk-road-themes/museums. Accessed Date: 17th Jun, 2019.

However, the quality and quantity of cultural-historical museums have high potentials – as well as gaps.[6] According to UNESCO, countries such as Cambodia, Yemen, Viet Nam, which are essential nodes of B&R, do not have relevant museum facilities (Figure 1.1).



Figure 1.1 The museums along the Silk Roads (source from UNESCO and edited by the author)

Although many museums in China have already organised joint exhibitions with foreign partners to showcase artefacts found along the Silk Roads, Chinese culture, as well as the cultures of other regions, still needs to be internationally recognised and understood. Therefore, if China can support other countries in establishing more museums of intercultural exchange on the Silk Road to promote cultural and regional development, both Chinese and foreign architects should reconsider their discourse and the way they communicate with audiences of different cultural backgrounds.

The development of museum architecture is more rapid than ever before in China. However, did the architectural language of these public buildings indeed convey the cultural meanings implied in the museum display? More specifically, cultural history museums in the context of B&R are not only educational institutions, but also places of intercultural dialogue. The museum buildings are not just landmarks or symbols encoded by architectural discourse. It is not only necessary to emphasise their

[6] Ibid.

functions but also to enhance a high level of communication to various visitors. Therefore, this study is based on the following points:

Firstly, the cultural-historical museums in this study are defined as a new idea of the cross-cultural museum based on the mix-cultural idea instead of the national museum or themed museum. The study proposed the narrative-oriented metaphor as an approach to express the core idea of the museum.

Secondly, this study is a criticism between museum studies and museum architecture design. Two aspects can explain why the author proposed the narrative-oriented design for museums in the context of B&R. On the one hand, it can illustrate from the perspective of the social-political issues. As the author mentioned, the cooperation between China and other countries focuses on infrastructures construction, economic investments and geopolitical relationships etc. They are all belongs to government-to-government collaborations instead of public communication. On the other hand, the narrative is a way of communication and cognition based on narratology. Hence, this study claims that the narrative-oriented design can improve the museum building's communication nature.

Thirdly, this study aims to take the story of the narrative as the design origin and combine it with the architectural language, therefore effectively convey the meaning of the exhibition through the implication of design association. It explores a closed network between narrative, exhibition and museum architecture (Figure 1.2). Based on narratology, the narrative consists of discourse and story. The story deals with what is told. The discourse refers to how to tell. The story of the narrative is conveyed through the signified meaning formed by the discourse, which cannot be separated from the narrative context created by the museum architecture.

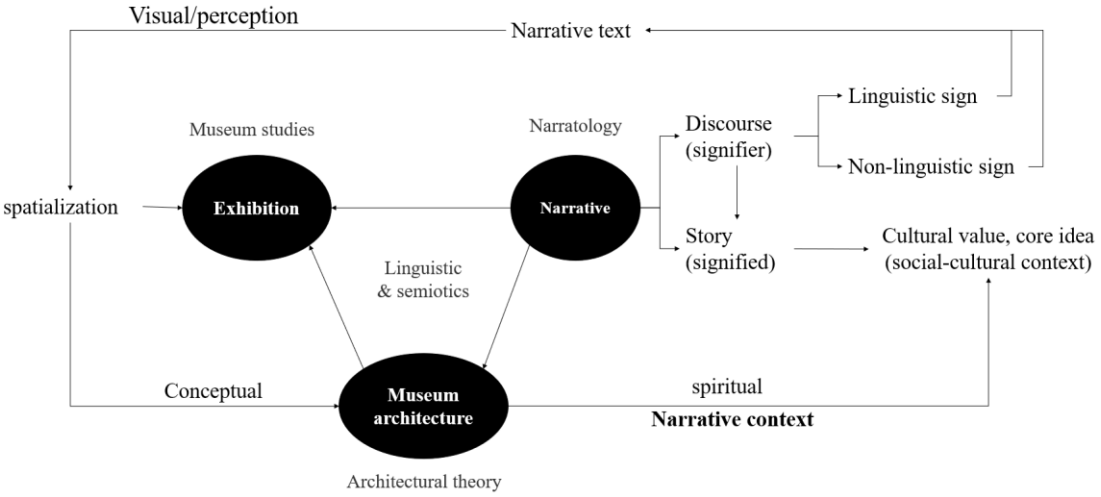


Figure 1.2 The research objectives (source: author)

What's more, similar to Guggenheim New York and Guggenheim Bilbao, the historical and cultural museums along the B&R can become a museum brand that shares cross-cultural communication from the past to the future. Different from these art museums, cultural-historical museums tell stories based on the physical display of objects. So the question is, how do these museums communicate with their audiences, which is closely related to the expression of the museum's content and its building (container). The visitor's interpretation of the museum begins from the moment they see the building, so the architect's discourse should contribute to their understanding and cognition.

Most of the studies related to the relationship between the museum building and museum content has focused on the spatial organisation and its influences on visitor's movements. Indeed, the spatial order influences the exhibition structure. However, this relationship is usually represented in a two-dimensional plane, and sometimes it lacks the connections to the museum's overall language from a three-dimensional level. Museums represent a unique role in performance from scientific discovery to accessible public meaning-making as real places. The narrative-oriented design proposed an entire narrative context to establish the connection between museum content and museum building as the container. The research objective in this study is to explore the essence of the cultural-historical museum in the context of B&R and how the narrative of architectural language can contribute to visitor's cognition of museum content. The research aims to provide an approach for architects, especially

Chinese architects, to deal with their discourse once they have opportunities to build museums within other countries in the context of B&R.

1.3 Initial research question

The above issues lead to the research question of this thesis:

1. Why is it necessary to propose the narrative-oriented museum design for cultural-historical museums in B&R?

2. How does the architectural language become a part of the narrative? In other words, how is it possible to express the museum's narrative through architectural language? The thesis revolves around exploring an approach to architect's discourse that connects museum architecture to the expression of the narrative.

It is vital to fill in the gap, as the cultural-historical museum has particular significance for the social, cultural identity in B&R. Generally speaking, architectural design is an encoding process through the architect's interpretation of social, cultural, and political context. It is also influenced by the architect's individual aesthetic preferences. However, the museum design not only creates a symbol but also serves as a narrative for the exhibits inside. The cultural significance (including its exhibition) is reflected through the visitor's interpretation and perception. Therefore, the architectural design should have an intrinsic relevance to interior museum content rather than merely being relevant to its macro-social and urban context.

Based on these features, the explanation of the initial research question can be elaborate or simple. Put simply, and the main problem refers to a broader issue of why and how does a museum's building contribute to the museum's narrative in the context of B&R? What can an architect's discourse do, more specifically, to enhance visitor's cognition through the cultural-historical museums – and how? As a PhD project in architecture, this study focuses on the museum design approach, which largely influences visitors' perception, interpretation and cognition. From a complicated theoretical point of view, the author establishes a framework to examine a narrative-orientated design contrary to the design idea that starts from the urban context. Hence, the main research question can be addressed through the following questions:

1. What are the challenges to cultural-historical museums in B&R? This question mainly refers to the difficulties that arise from the cultural distance. The macro review of B&R and its challenges will be introduced as the research background in Chapter 2.
2. How does the architect's discourse contribute to the narrative expression? This question is examined in Chapter 3, and it helps to narrow the research gap. Architects always apply the metaphorical expression to convey the cultural meanings of architectural language, or it can be treated as the abstract narrative of the building itself. Similarly, metaphor can also be an approach to express cultural connotations in a specific context. Chapter 3 will examine the research gap both from the narrative & architecture and the narrative & exhibition.
3. How does architectural language become a part of the narrative? To explore this question, it is necessary to review the fundamental theory – structural linguistics and semiotics, and their relationship with architectural language (Chapter 4).
4. How can the narrative-oriented metaphor be achieved in the museum's narrative context? Chapter 5 proposed a narrative-oriented metaphorical framework to illustrate its feasibility.
5. How does the narrative-oriented metaphor impact visitors from different cultural backgrounds (Chapters 5-7)? There are mainly two case studies that provide potentials to analyse the narrative expression and the visitor's interpretations. One is the Ashmolean Museum, Oxford, and the other is the Mary Rose Museum, Portsmouth.

These questions can be achieved step by step, and the conclusions can contribute to the architect's discourse in designing a cultural-historical museum in the theme of the Silk Roads.

1.4 Research methodology

1.4.1 Overall research methods

To address the above questions, the research sets out a series of stages. Firstly, the challenges and status of cultural-historical museums in the context of B&R need to be examined, and then, the research gap needs to be clarified. Finally, the framework of

architectural expression from the narrative inside the museum needs to be built. There are mainly three ways to achieve research questions, which are quantitative, qualitative, and mixed methods.

Quantitative research addresses "a research problem through a description of trends or a need for an explanation of the relationship among variables" (Creswell, 2014, p. 9). It focuses on the cause of trending changes through establishing a tendency from individual to groups or the influences of variables among different groups.

Qualitative research explores a social or human phenomenon in detailed understanding, which is just the ideal method for this research from an integrated perspective (Creswell, 2014, p. 9). The *literature review* is used to define the research gap across the fields between museum studies and architectural language, based on the potential challenges to the museums in the B&R. Moreover, the *literature review* builds up the fundamental theoretical framework to explore the narrative-orientated architectural language and its expression of the narrative's cultural meaning. The whole research framework is based on the qualitative method. However, it is also necessary to collect data and analyse the case studies to verify the practicality. The questionnaire is the primary method to collect data in this research.

Based on the discussion above, the research methods in this whole study intend to adopt mixed methods. According to Creswell, mixed methods research is "a procedure for collecting, analysing, and mixing both quantitative and qualitative methods in a single study or a series of studies to understand a research problem"(Creswell, 2014, p. 9).

Firstly, the research questions emphasise the social phenomenon for Question 1 – the narrative-oriented expression for cross-cultural communication through museum architecture, which belongs to qualitative research. The *literature reviews* provide methods to narrow the research gap and build the theoretical framework (Questions 2-4). Moreover, the author has interviewed several architects and curators to obtain their opinions on the relationship between architectural design and exhibition design. Furthermore, the *interviews* included questions about their statement of the challenges to the cultural-historical museum in the context of B&R. The whole interview process helps identify the specific research gap.

Both the statistics and open-ended questions from quantitative research are contained in the questionnaire (Question 5), which directly examines visitor's interpretation and cognition (Dane, 2011; Franklin, 2012; Kirklees Council, 2003). The following sections will focus on the methods of interviews and case studies.

1.4.2 Interview with curators and architects

Interviews are usually used to conduct qualitative research, where researchers are planned to gathering facts or insights about opinions, attitudes, experiences from individuals or representative groups (Rowley, 2012; Kvale and Brinkmann, 2008; Roulston, 2010). It is face-to-face verbal communication in which an interviewer can get information and understanding from the interviewee (Rowley, 2012, p. 260). The interview can be in the form of a questionnaire or chat.

The interviews in this study aim to collect curators and architects views on the connections between architectural expression and museum narrative from different perspectives. They can discuss their attitudes, interpretations, or experiences as the creator or writer of a museum. Therefore, the open-ended interview was adopted to obtain their different opinions. The semi-structured questions in a set order but with some flexibility in each question can ensure interviewee express their ideas from various degrees.

The research questions decide the length of the interview and the number of the interviewee. Also, the interviewee's willingness should be taken into account. In this study, the author has an opportunity to interview different angels. As the author mentioned, the 2nd Sino-Britain Exhibition Curator Training Camp attracted curators, designers, museum professions, and architects to participate. It is a great opportunity to discuss the questions with the architects and curators. After introducing the topic of this research, around ten designers were willing to be interviewed. Some of them would like to be interviewed individually. In contrast, the Chinese curators preferred to be interviewed as a group.

Furthermore, the open-ended questions are various from architects and curators because of their different positions. The questions for architects focus on their understanding of the role of architects, the relationship between museum building and

exhibition during a museum design. At the same time, the questions for curators focus on their understanding of the display and museum building.

There are two main approaches to analysing qualitative interviews: inductive and deductive. According to Burnard, he proposed an inductive approach as *thematic content* analysis, which analysing the interview data stage-by-stage (Burnard, 1991). Section 2.3.2 illustrates and analyses the interview in detail.

1.4.3 Case studies

The *case study* is the primary method of identifying the study's assumptions, which plays a vital role in advancing a field's knowledge base (Gillham, 2000; Shields, 2009; Yin, 2018). It is an approach to collect data within a specific context, and it matches the "how" and "why" research questions (Yin, 2018). The purpose of the case study is to illustrate these research questions in practice. In this study, the primary point of the case study is to explain the framework of the narrative-oriented approach and its impacts on visitors.

At first, the author planned to choose Mangrove Museum Shenzhen as one of the design-based approaches, including a text narrative of the exhibition and architectural scheme design. However, the project was never completed, so it was impossible to investigate the audience's cognitions of the narrative discourse. The author believes that the meaning of any discourse becomes meaning only when audiences perceive it. Therefore, the author adopted case studies as the primary research method.

To select the cases, it is important first to clarify the purpose of case studies. According to the research question, this study explores the expression of architectural language and its connection to the museum narrative. Therefore, the cases are required to be "narrative". The second is to consider the needs of the case study:

Firstly, the case studies are the museums of culture and history, which can provide references for the museums. The author also studied the large scale museums in China, such as the Tang West Market Museum (Xi'an) and the Guangdong Maritime Silk Road Museum. These museums default to chronological narrative order. Hence, they were built in the order of architecture before the exhibition and from the outside to the

inside. Both the architecture highlight their distinctive features. These characteristics do not correspond to the qualities emphasised by the B&R museums.

Secondly, the museums are accessible to do field investigations at any time, which can comprehensively and profoundly analyse the museums. The author spent most of her study time in the UK, and it is reasonable to select UK-based cases.

Thirdly, the museums should be better related to cross-cultural elements.

Through an initial survey of cultural-historical museums in the UK, the author chose the Mary Rose Museum and the Ashmolean Museum as primary cases. Indeed, limitations exist because of the cultural gaps in different contexts between China and the UK. However, the development of the British museum system is relatively mature than in China. In addition, the museums were required to reinvent themselves as agents of social inclusion since 1997 (Sandell, 1998). Hereinto, amounts of studies focused on the cultural diversity and narrative in museums (Hooper-Greenhill, 1999; Burman, 2010; Bodo, 2012). These studies and practical museums can provide examples and references for the new idea of B&R museums. In addition, since several countries along the B&R were colonised by the West and were influenced by Western cultures, the values and cultural output of the Western museums are references to some extent. The “references” here means not a copy but a design guide of this study.

Mary Rose Museum, Portsmouth, is a case to examine how museum architecture fit with narrative, and the museum building was designed from the inside out. Besides, as it tells the story of the ship – Mary Rose, which can become a reference to the narrative of the Maritime Silk Roads. The Mary Rose Museum creates a corresponding relationship between exhibition and architectural language (Figure 1.3).



Figure 1.3 The virtual hall of Mary Rose Museum (source: author)

The architectural and exhibition discourse is a metaphor for Mary Rose. Instead of separating the salvaged objects from the shipwreck, the architectural discourse had built a virtual hull to recreate the moment before the Mary Rose sank. It creates a narrative context for visitors to learn about the history of the Tudor warship and the national identity of the Royal Navy. The museum tells a

The other is the Ashmolean Museum, Oxford. Firstly, the core idea of museum content – *crossing culture and crossing time* – is metaphorically reflected through the spatial language, which provides a new narrative context for visitors from different cultural backgrounds (Figure 1.4). Secondly, it was one of the first museums in the world open to the public. In 2009 the new extension building, combined with the neo-classical building, became a remarkable symbol, not only for the renewal of museum content, but also for the building itself. The new context of spatial narrative breaks the chronological order of the display. The narrative discourse expresses the links between different cultures and creates dialogues between them. Besides, the architectural discourse influences visitor's movements and establishes the relationship between seeing and being seen, which provides ideal opportunities for observation and questionnaire surveys. These two museums are assumed to explore the interaction between narrative-orientated architectural language, and its metaphorical expression can enhance the audience's cognition and interpretations.

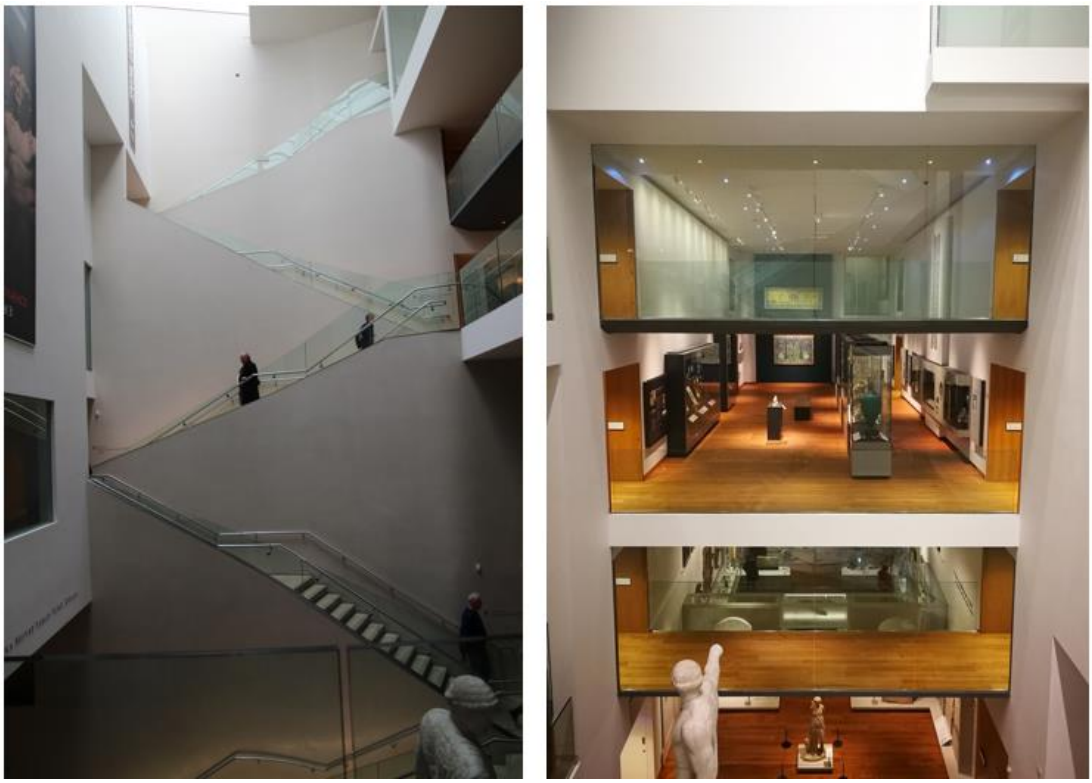


Figure 1.4 The metaphor - "crossing cultures, crossing time" of the Ashmolean Museum (source: author)

According to Creswell (2014) and Yin (2018), collecting data for the case study means gathering information by asking people questions or observing their behaviours. Hooper-Greenhill also advocated observing visitors, structured interviews, and questionnaires to evaluate learning from objects. The ultimate purpose of analysing data is to provide evidence for the research question via concluding, representing, and explaining the data (Yin, 2018). The case study can deal with various data collected in interviews, observations, visitor tracking, and questionnaires (Table 1.1). The survey and interviews were the main methods used for the case study for this thesis. The evidence from case studies is mainly documentation, archival records, interviews, direct observation, participant observation, and physical artefacts. Besides, films, photographs, videotapes, projective techniques, and psychological tests can also become evidence (Yin, 2018).

Table1.1 Different methods of data collection (source Creswell, 2014, p. 549)

Quantitative research		**Qualitative research**	
Methods of data collection	Data	Methods of data collection	Data
Instruments (e.g., questionnaire, closed-ended interview, closed-ended observation)	Numeric scores	Open-ended interviews	Text data from transcribed interviews
Documents (e.g., census, attendance records)	Numeric scores	Open-ended questions on questionnaires	Text data transcribed from questionnaires
		Open-ended observation	Fieldnotes from researchers' notes
		Documents (e.g., private or public)	Text data optically scanned from diaries, journals, letters, or official documents
		Visual materials	Image data from pictures, photography, or audiotapes

For this research project, documentation, interviews, direct observation, and a survey to collect the data were adopted. The questionnaire and observation in case studies will be analysed in detail for each case according to the research questions.

1.5 Research outline

Figure 1.5 shows the outline of this research.

Chapter 1 introduces the research background, research questions and methods. It points out the research theme of this study.

Chapter 2 mainly introduces the macro background of B&R to define the potentials of and challenges to the design of cultural-historical museums. It aims to explain why the narrative has positive effects on cross-cultural communication, which provides a stable environment for economic investment and trade exchange throughout the Silk Road's history.

Chapter 3 focuses on the identity of a specific research gap. It reviews the studies from the perspective of architecture and museology, respectively.

Chapter 4 establishes the basic theoretical framework for metaphorical expression and through architectural language in the narrative context inside the museum. There are mainly two parts: firstly, it reviews the history and development of metaphor from figurative language to conceptual theory. In relation to conceptual theory, it can be used as a way for architects to communicate with audiences. Secondly, it reviews the relationship between metaphorical expression and architectural language based on structural linguistics and semiotics to explore the nature of the metaphorical expression of architectural language.

Chapter 5 claims that the metaphorical expression of the museum can reflect the museum narrative inside. Moreover, the author assumed to establish a framework of narrative-oriented metaphor for museum design in the context of B&R (in response to the research Question 4).

Chapters 6 and 7 present the case study of the Mary Rose Museum in Portsmouth and the Ashmolean Museum in Oxford. By assuming the framework of metaphorical expression for cultural-historical museums, the author proposes a way to build and design the cultural-historical museums in B&R. This framework will be assessed through visitor's accessibilities in the Mary Rose Museum and the Ashmolean Museum.

Finally, *Chapter 8* compares the two different case studies to examine, in turn, the potentials and limitations of the research. The author expounds on the practical values of this thesis and looks forward to the prospect of future research.

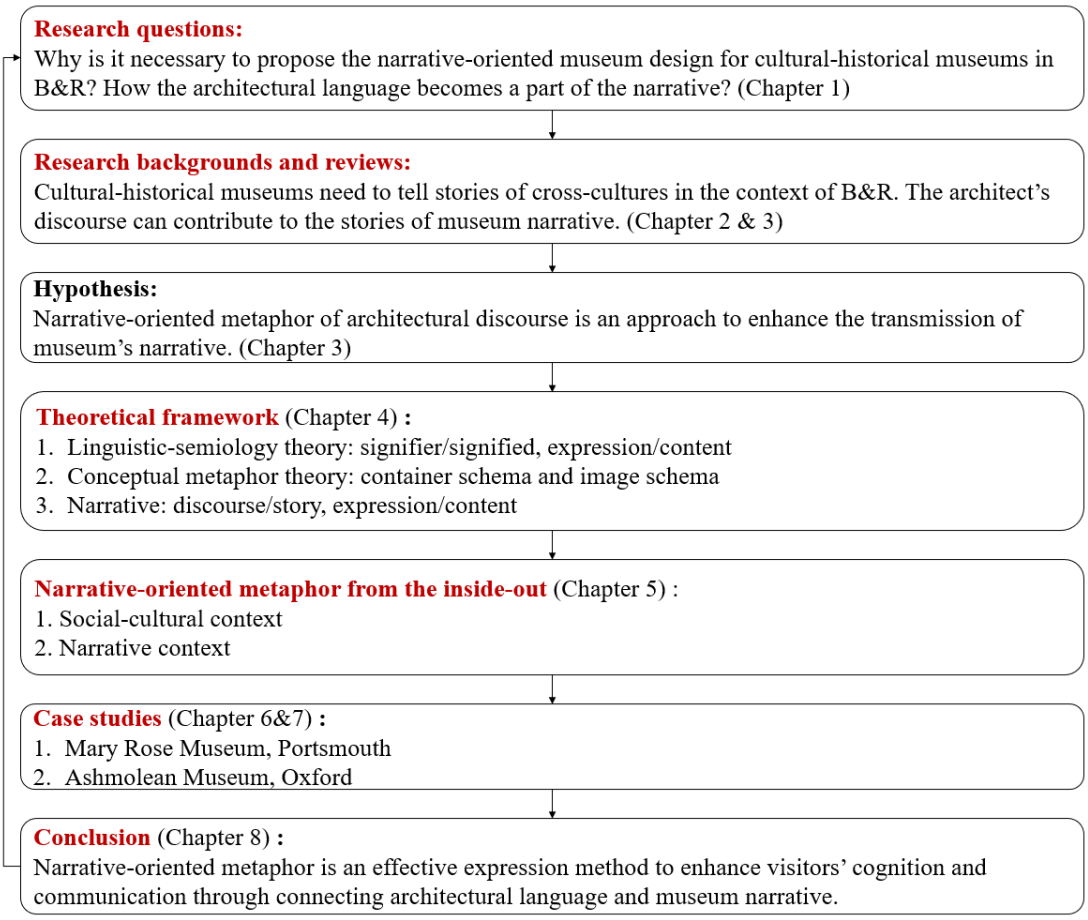


Figure 1.5 The mapping of thesis structure (source: author)

Chapter 2
Introduction of “Belt and Road Initiative” and Its Impacts on Museums

Recently, museums have experienced a boom. Although the economic crisis has stopped the booming of the museum in western countries, the number of museums still keeps increasing. In China, the regional governments are aware of the importance of the museum’s role in education and its impacts on city identities. In particular, the B&R has become a significant issue because of cultural diversity, and museums can provide a platform for cross-cultural communication.

This chapter will introduce the macro background of B&R to identify the challenges and potentials for the museums. In other words, the purpose of this chapter is to introduce B&R and to analyse the importance of museum construction along the Silk Roads. The first part provides insights into B&R in terms of its historical value, particularly as a form of multicultural exchange. The second part provides an overview of museums as a way of communicating with the general public and their development. Finally, the author presents the potential challenges of intercultural communication in the context of B&R.

2.1 Introduction of B&R

2.1.1 The concept of B&R

In 2013 China, President Xi Jinping’s proposal of the “Belt & Road Initiative” immediately attracted many countries attentions. As Peter Frankopan said, “The Silk Roads allow us to understand the past, not as a series of periods and regions that are isolated and distinct, but to see the rhythms of history in which the world has been connected for millennia as being part of a bigger, inclusive global past” (Frankopan, 2016, p. 3).

The initiative is broken into a land component, known as the "Silk Roads Economic Belt", and a sea component called the "Maritime Silk Roads". The "Belt" consists of several corridors connecting China to the far reaches of Eurasia by road and rail. The "Road" involves developing ports and shipping routes connecting Chinese harbours to Europe and the South Pacific (Figure 2.1). The authoritative *Vision and Actions on Jointly Building Silk Roads Economic Belt and twenty-first Century Maritime Silk Roads* was set by the National Development and Reform Commission in 2015. It defined the five "roads" that "connecting the vibrant East Asia economic circle at one end and developed European economic circle at the other" to achieve the potential development of the economy (NDRC, 2015).

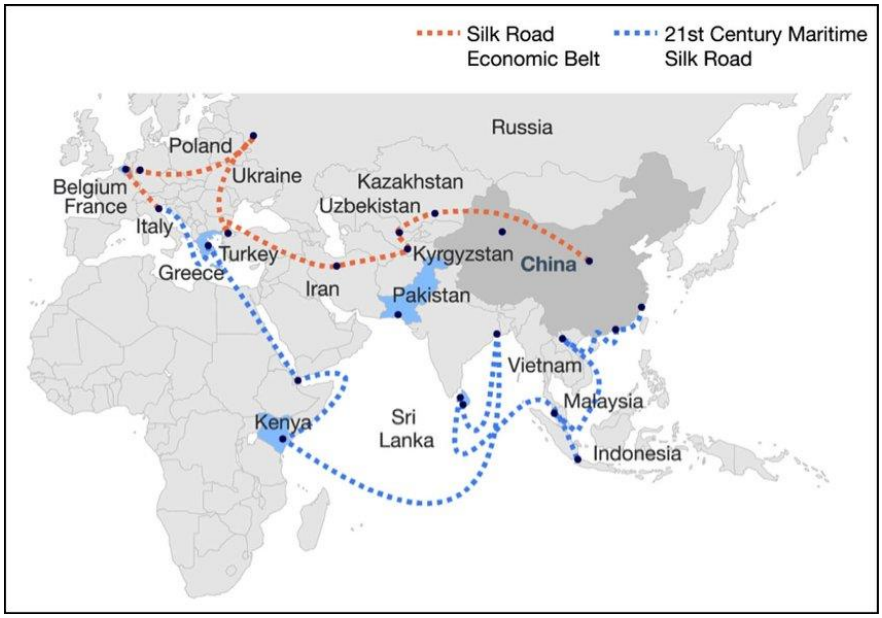


Figure 2.1 The network of B&R (Liu et al., 2018)

The twenty-first-century B&R is a reincarnation of the ancient Silk Roads that connected China to the Mediterranean for two thousand years. Nowadays, the Silk Roads have become a byword for the trade and exchange of the past. Various economic corridors have replaced the camel trails, and the ships that transported porcelain and silk have become tankers. The reference to Silk Roads familiarises B&R to the public around the world. However, if governments or authorities aim to promote the cultures of B&R countries, their efforts may have to start with the historical Silk Roads.

The term "Silk Road" was first named by the German geologist Baron Ferdinand von Richthofen in 1877. He used the word to describe the trade routes between the Han

dynasty and the Roman Empire. In general, people associated the Silk Roads with silk. As silk was one of the most popular trading commodities in Eurasia, the secret of silk can be traced back to 5,000 years ago. For over several millennia, silk was used as the primary material for clothes in various dynasties. As Batley described it**,**

> Young and old Chinese all wear silk clothes in both winter and summer, but silk of the best quality is reserved for the kings…. During the winter, the men wear two, three, four, five pairs of pants. During the summer, they wear a single shirt of silk or some similar material. (Bentley; et al., 2006, p. 277)

At present, the term "Silk Roads" has gone beyond the concept of the export trade of silk. It has provided opportunities for all kinds of exchange between diverse peoples and cultures. The Silk Road's narrow conception is an east-west route between China and Rome. However, it was not just one "road" but a network of paths linking many areas. Historians claimed that the Silk Roads were a network in more than a linear way. To map it by merely drawing a couple of horizontal lines across the centre of Eurasia and the Indian ocean, as the textbooks used to do, gives a false impression (Millward, 2013). The concept is a shortened form covering diverse land and sea routes of Eurasia and Africa instead of definable areas.

In addition, except for silk, foods, languages, religions, and arts were also transmitted along the Silk Roads, which extend the deep connection between Asia, Europe and Africa. As Steven Brakman argued, the network of Silk Roads shows "the ways that global centres of power, but also science and literature, of culture and the arts, shifted over time" (Brakman, 2019, p. 6). Thus, the Silk Roads history is told not only the stories of movements and migrations, but also the history of artistic exchanges and religion's spread. They all follow the rise and fall of political background, encompassing a wide range of cultures and peoples.

Many of the documented archaeological research records were undoubtedly the result of communication between various ethnic groups over time. Other aspects we still know only a little about. The narrative of objects relating to Silk Road cultures in the museums still requires examination. For example, the pastoralist and nomadic people, who were often described as barbarians, were the prime promoters of cultural exchanges along the Silk Roads – *proto-globalists* and *conquerors* (Liu, 2010)**.**

Notably, many plucked and bowed stringed instruments were developed by horse-raising people's help and were spread across the continent by central Eurasian nomads. Besides, whereas vast empires facilitated exchanges along the Silk Roads through political and military consolidation, the spread of religions did the same by creating religious and cultural realms, sharing faith and the common belief that overlapped and transcended political and even linguistic boundaries. These historical facts or stories can serve as sources of information for the cultural-historical museums along the Silk Roads.

The facts above show that the coexistence of diverse cultures along the Silk Roads has a long history. Due to the complicated history of Silk Roads, it is essential to summarise the key points relevant to B&R, which contributes to the narrative of cross-cultural museums in different countries. This chapter will be divided into two parts – the historical Silk Roads and the B&R nowadays.

2.1.2 Historical Silk Roads

Generally speaking, the historical Silk Roads discussed at present mainly includes four parts:

- The Desert Road, which starts from Chang'an (now Xi'an), China, passes through western regions and Central Asia, leads to West Asia and South Asia, and reaches the coast of the Mediterranean Sea at Rome.
- The Steppe route (also named the Great Steppe or the steppes) starts from Chang'an (now Xi'an) in China and leads to the northern countries through the Eurasian steppe of West Asia and Europe.
- The Southern Silk Road refers to the road through Southwest China to India, Central Asia and other regions. The "Tea-horse Road" is an essential part of the Southern Silk Road.
- The Maritime Silk Road mainly refers to the connections between China, Korea, Japan, Southeast Asia, the Indian subcontinent, the Arabian peninsula, Somalia, Egypt and Europe. It flourished between the second century BC and the fifteenth century AD.

The “Silk Roads” are vital because they transformed history for an extended period. The people who planned to traverse the Silk Roads not only spread their cultures to different lands but also mixed with people who were already there. Therefore, this network of routes became the most famous cultural artery for interaction between East and West, including the exchange of religions, language, art, music and technologies, which created a foundation for developing the “B&R Initiative”. In World War I, scholars and explorers gathered manuscripts, artefacts, and artworks built on the terms that Heathofen proposed. These objects are evidence of extensive trade history in ideas, technologies, goods, commodities, and dialogue across cultures spanning centuries (Winter, 2020). This study does not elaborate on the rise and fall of the historical Silk Roads. However, two aspects are closely related to the cross-cultural communication and exchange of B&R.

Firstly, there are two critical periods in the history of the Silk Roads, known as the Han and Tang dynasties. In the second century BCE, Emperor Wu of the Han dynasty sent the first diplomat, Zhang Qian, to the West. The primary purpose was to negotiate an alliance against the Xiongnu (now Mongolia). Although the negotiation was not successful, Zhang Qian noticed the commercial opportunity in northern Afghanistan (now). Afterwards, the Han dynasty dispatched armies to the northwest and built garrisons for security and occupation. Hence, many records show the beginning of Silk Roads deriving from Zhang Qian’s trip. The evidence in Xiongnu’s tomb, which includes Chinese bronze mirror, silk, and lacquerware, supports that goods were passing through Xiongnu and transferred to further west regions. During this period, the Han dynasty established a systematic mapping of the Silk Roads.

It was not until the Tang Dynasty (755A.D.) that the Silk Roads trade reached its heyday, which laid the dominant position and the tributary system. Although the most popular items transported along the Roads were porcelains instead of silk, the development of maritime trade routes had attracted merchants from India, Persia, and Arab, as well as Jewish and Armenian traders. They concentrated their businesses in Guangzhou and other cities along the China Mainland’s Southeast coast (Chan, 2018). During this period, the Tang Dynasty, which managed to extend Chinese control into Central Asia, foreign culture was all the rage among the Chinese elite: everything from makeup and hairstyles to dance and music. Women even played polo, a game imported

from Persia. Conventional histories of the Silk Roads stop with the European Age of Discovery and maritime routes to the East in the late fifteenth century (Waugh, 2019).

Secondly, the cultural exchange is a side product of the trade along the Silk Roads. For a long time, scholars believed that western culture is active and aggressive, while eastern culture is passive. The latter was supposedly much more easily influenced by western culture, with "western learning introduced into China（西学东渐）". However, scholars have now recognised the erroneous assumptions underpinning this theory and now posit that the collision between cultures along the Silk Roads was a reciprocal process. Hence, cross-cultural communication has existed for a long time. There are mainly three forms of cultural exchange and transmission, which are religions, techniques and arts. For example, the silk weaving generated by China was conveyed to Central Asia in the fifth to the sixth century (Hansen, 2012). At the same time, glass making was brought into China from the Mediterranean. The international dialogue also brought architectural design innovation along with the Silk Roads, such as Timur's structures in Samarkand or the mosques in Yassy (Turkestan). They refer to architectural shapes, ornaments, and building techniques from different countries. They were built not only by architects from Middle Asia but also by Iran, Iraq, and other countries. Following different techniques, arts such as paintings were spread. During the Tang dynasty, particularly, the artists and monks from central Asia were the most popular in Chang'an.

Furthermore, the Silk Roads also promoted sustained language exchange following the spread of Judaism, Christianity, Islam and Buddhism and Hinduism. The Buddhists hoped to convey their sophisticated teaching as expressed in Sanskrit among the most dedicated languages. Kucha provided a gateway for the entry of Buddhist teachings into China. Besides, this area allowed Buddhist teachers to communicate with multilingual travellers who came to Kucha, which became the largest and most prosperous place on the northern Silk Roads (Hansen, 2012).

In summary, the Silk Roads changed history. On the one hand, people who travel along the Silk Roads planted their cultures to a distant land. The oasis towns like Turfan, or Dunhuang, enticed people to cross over mountains and sand oceans. On the other hand, the local people mixed with these new residents and influenced their customs and

cultures. Because of this double-side exchange, the trade was no longer the Silk Road's primary purpose (Hansen, 2012). Despite the political disorders disrupting the overland routes, some parts continued to flourish until the seventeenth century. New trade methods emerged, with Indian and Armenian merchants playing essential roles. Trade along the Silk Roads continued, even if transformed in importance, into the twentieth century. It became the planet's most famous cultural hub for spreading religions, art, languages and new technologies.

Hence, cultural exchange is an excellent power for communication, no matter in past or present. Hence, as the author mentioned in the introduction, cultural and historical museums of countries along the Sik Roads can be *cross-cultural contact zones*. And more specifically, the cross-cultural communication along the Silk Roads was facilitated by nomadic people, merchants and monks, which could all become stories to be told in cultural-historical museums. And if these stories can be told vividly through an extensive collection, it can not only resonates with audiences, but also enhance their cognition of different cultures, history, and future.

2.1.3 B&R Initiative – the revival of Silk Roads

2.1.3.1 The Definition of B&R

> That is what a potential trading route is at the core of this— at least. The belt, the physical road, and the maritime Silk Roads would re-create the shipping routes that made China one of the world's foremost powers many, many years ago. (McKinsey&Company, 2016)

As Xi emphasised at the eighth conference of the "Central Leading Group on Financial and Economic Affairs" on 4th Nov 2014, the *Silk Roads Economic Belt* and *the 21st Century Maritime Silk Roads Initiative* meet the needs of the current era and the development desires of other countries. It could provide a potential platform, based on a deep historical and cultural foundation, to develop the economies both of China and the countries along the Silk Roads. Thus, the first level of this initiative may be the potential to be the largest platform for regional collaboration. This plan has covered over 65% of the world's population and about one-third of its GDP. The B&R comes at an exciting time because China is going through a very significant economic

development transition. At the same time, many companies are seeking to grow their export market. It is a win-win advantage for both sides that if the strategy becomes a reality.

In 2012, government investment plateaued at 49% of GDP, narrowing the technological gap between China and developed countries. This shifting environment has prompted a more balanced economic approach – the sustainable "new normal" – with an increased focus on global integration (He, 2017; Lemoine and Ünal, 2017). The B&R aims to alleviate China's domestic economic slowdown, build infrastructure to connect Asia for trading and strengthen China's regional influence, thereby utilising the overcapacity in Chinese firms (Haggai, 2016). So far, there are 138 countries and 30 international organisations throughout Africa, Europe, Caucasus, Asia, Russia, and North and South America who have signed cooperative documents on different projects.[7]

However, while China vigorously advocates its benefits, the challenges and risks also need to be weighed from various aspects. On the one hand, B&R is a geopolitical tool to enhance economic benefits and soft power.[8] On the other hand, there are multiple discussions about B&R's motivations. For example, according to Kevin Sneader, McKinsey's partner, B&R is the second "Marshall Plan"[9] – the heart of the regeneration of Europe after the Second World War (McKinsey&Company, 2016; Miner, 2019). Also, under the influences of the historical tributary system of historic Silk Roads, the effects and aims of B&R were questioned from various aspects.

[7] List of projects of the Belt and Road Initiative. *Wikipedia*. Available at: https://en.wikipedia.org/wiki/List_of_projects_of_the_Belt_and_Road_Initiative. Accessed date: 10th Nov, 2018.

[8] The concept of "soft power" was proposed by Joseph S. Nye in the 1980s, "the ability of a country to persuade others to do what it wants without force or coercion". Sabena Siddiqui. *The value of soft power in foreign policy*. Available at: https://theasiadialogue.com/2019/02/18/the-value-of-soft-power-in-foreign-policy/. Accessed date: 31st May, 2019.

[9] It was said the "Marshall Plan" is American economic imperialism and an attempt to control western Europe.

2.1.3.2 The motivations of B&R

Throughout history, nations were identified with the changeable and ambiguous areas surrounding cities. Along the Silk Roads, the influences of many countries or key cities overlapped and coexisted. So, it may be complicated to summarise who was the supreme power. However, with the modern concept of the independent country becoming much more confirmed, especially after the Second World War, the contemporary international political system has made the situation different. Nowadays, it has been supposed that Beijing is eager to expand its political influence and to promote economic integration with neighbour nations under the framework of B&R. The foreign observers have always discussed the motivations for B&R, especially the geopolitical effects. This study summarises the causes of B&R briefly from two aspects, which are internal and external factors.

Internal factors are closely related to China's current economic development and industrial overcapacity (Ma, 2015; Wang, 2017; Europe.Chinadaily.com.cn, 2017; Nortonrosefulbright.com, 2016). These factors can be summarised in several aspects:

- Industrial overcapacity;
- Foreign exchange reserves;
- The gap between rich and poor in China’s West and East.

With China’s strategy to convert the economic pattern from extensive form to innovative form, Chinese President Xi Jinping brought forward the concept of the “New Normal” Economy in May 2014 (Lemoine and Ünal, 2017; Noesselt, 2017). Under this plan, China will concentrate less on GDP-orientated economic policy but focus on quality and intensive development. However, the country needs to find a way to digest its massive production capability built in the last 30 years. For instance, based on the statistics from the *World Steel Association*, China has become the top country with numerous steel productions from 2015 to 2016. The land produced 31% of the world’s crude steel in 2005, but this increased dramatically to 49.6% in 2015 (Worldsteel.org., 2016, pp. 8-9). Only 4.6% of this overcapacity could be exported to the international market (Worldsteel.org., 2016). Under this circumstance, the term “B&R” seems relatively more acceptable and needed for domestic development. China may need to find a big enough market to digest this enormous amount of steel.

However, compared with the pure exportation of the extra producing power, what collaboration with China could bring in the local societies and communities is more important to many countries. Therefore, when China announced that the B&R is to build common interest for both sides based on each member's strength, this official purpose soothed many doubts among the international community. As Xi Jinping stated (XinhuaNet, 2017b), China needs to make joint efforts with relevant countries to accelerate the pace of infrastructure and connectivity construction to build the *Silk Roads Economic Belt* and *the 21st Century Maritime Silk Roads*. This approach represents what Beijing has repeatedly stressed as the building of a "Community of Shared Future for Mankind" (China.org.cn, 2017).

Indeed, there is a simple logic inside. China could export excess steel and loan partner countries to build many complicated and much-needed infrastructures, such as ports, railways, and power generators. Simultaneously, the raw resources that China always needs, such as oil, could be imported from these countries to satisfy the domestic requirements, which may help partner countries achieve overall modernisation (Dong, 2017; Lin, 2017; Sugaropoulos, 2017). Therefore, both Chinese and foreign scholars believed that one of the leading and urgent motivations of B&R is to sustain China's fast-growing economy by exporting its industrial overcapacity productions to developing countries (Clarke, 2018; He, 2020). Besides, the investment of infrastructures in the countries such as Pakistan, Kenya and Kazakhstan, seems to help to reduce China's vast foreign exchange reserves. To achieve sustainable development, the B&R meets the internal requirements of Chinese economic growth, expanding the domestic economy to the world stage (Jiang, 2020). Furthermore, the B&R possibly improve the financial investment of inland provinces and migrate the wealth disparity and unrest of ethnic minorities.

Undoubtedly, we may not ignore the domestic roots of B&R, and the inevitable external forces are driving the B&R as well.

After almost 40 years of practice of the policies of "Reform and Opening", the most important areas of Chinese economic growth is built along the eastern coast. Convenient transportation and developed infrastructure have made these eastern or south-eastern cities the most developed regions in China. However, the sea, which

used to be an advantage in growth, has become a barrier for further development. With the recent high-speed economic growth, China has been considered more and more like an enormous challenge to the international order set up by the traditional western developed world. To detail this potential challenge, western countries, mainly led by the United States, seems to set up a series of shackles. From the perspective of geopolitics, it is evident that China's dream of global strategy is restricted on the East by a series of *Island Chains in the Pacific*, led by the United States and allies via the military embankment (Clarke, 2018). Facing this risky condition, China's government naturally has to find a new way around it. Wang Jisi, a professor from Beijing University, was the first Chinese scholar who argued that China should not give in its strategic vision of promoting its western region. He argued that China should not stop its strategy to the Asia-Pacific as "March towards the West" while the US was moving forward to the East. This strategy is branded as "March West" (Wang, 2012). As he stated,

> China does not have international geostrategy in print, but as China's eastern regions have traditional development advantages, threats to China's sovereignty and territorial integrity have mainly come from the east. (Wang, 2014, p. 130)

Indeed, there is no equivalent political and military deployment in the west. Thus, it is an arguably wise decision for China to choose the historic Silk Roads, which represents the metaphor of the flourishing of land power. It includes five economic corridors: the *New Eurasian Land Bridge* (Jiangsu province to Rotterdam, Netherlands), *China-Mongolia-Russian Corridor, China-Central Asia-West Asia Corridor, China-Indochina Peninsula Corridor, China-Pakistan Corridor, Bangladesh-China-India-Myanmar Corridor* (Nortonrosefulbright.com, 2016).

Since the B&R initiative was launched, it has been touted as China's excellent rejuvenation strategy by major media. However, one question is whether this initiative is an active expansion or a passive breakthrough. The world today still could be argued to be in the maritime age, and the oceans play significant roles to form the world economic network. For example, most transportation is still carried out by using hundreds and thousands of containers on the sea, and critical nodes like the Suez Canal, the Persian Gulf and the Strait of Malacca, still control the economic arteries of the world. Therefore, as the largest developing country, the most active economic power,

the potential competitor of the old international system designed by the Western world, and a nation built on a different political ideology to the western democracy, China's development is almost inevitably pre-doomed to restrictions. The old pattern of the rise of previous superpowers is too difficult to imitate, so the country has to find a new way. Therefore, B&R is more likely to be described as a passive breakthrough from the external perspective, integrating Eurasian land power against the sea power dominated by traditional maritime countries.

To join the internal and external motivations together, it is not difficult to understand that the B&R initiative integrates China's concerns on international common interests and domestic self-security. It could be argued that the B&R initiative is possibly the best choice to solve many problems that China is currently facing. However, a wise plan does not mean it is without fault. The B&R starts from where it was formed thousands of years ago, and although economic benefits are the main motivator, culture exchange should not be ignored as it could be a double-edged sword.

2.1.3.3 The challenges to B&R

The outside understanding of B&R is quite diverse in both academic and public fields, which is not necessarily always positive as the Chinese government wishes. Despite the steady progress of B&R's programmes, the potential challenges still exist and influence its acceptance and development. This section mainly focuses on social-political challenges and cultural distance.

- The social-political issues are related to China's experience on the world stage;
- The cultural distance refers to how China communicate with others.

Firstly, as mentioned, the B&R was described as a "revival of the tributary system" in Western media (Gu, 2020). It not only reflected their attitude to China's investment but also shows ignorance in the West about China's approach towards the world. For example, the significant but potentially low-return investment into infrastructure constructions must bear another hidden political aim to increase regional political influence. It is very similar to the neighbour tributaries yield to the powerful central empire in dynasty history. The conservative views of developed countries easily give rise to fears that China wants to change the old international order and infiltrate

Chinese influence in Western regions, such as Central Asia, the Middle East and Africa. Furthermore, B&R has been labelled as "neo-colonialism" or the "Chinese Marshall Plan" (Shen, 2016; Theguardian.com, 2018).

Furthermore, some western countries associate the tributary system with the new Chinese imperialism via the B&R. As the first German foreign minister Sigmar Gabriel described, B&R is terrible for democracy in Munich. Gabriel said China was using B&R investments to promote a different set of values from the west. "The initiative to build the new Silk Roads is not a sentimental reflection on Marco Polo, as some Germans believe," he said, "This is about completely reshaping the world following China's interests" (BBCNews, 2019). Therefore, it will be difficult for the partner countries, which used to be the historical tributary states of China, to accept this initiative without any emotional handicap.

There is no doubt that China is at the centre of the B&R, sitting in the driver's seat. However, the rise of China will not lead to a hegemony. Firstly, it may obey Chinese traditional values such as benevolence, righteousness and rites with equality (Yan, 2018). Secondly, China's national defence discourse often emphasise anti-hegemonic policy (Herrington, 2011). These statements of China's hegemony, on the one side, are closely related to international political issues. On the other side, it reflects China's lack of approaches for communication, especially at the public level. The research report[10] on Chinese enterprises' status in 2019 shows the importance of cultural exchange. Based on the collected data, the Chinese enterprises have assessed that cultural art, religions and community development are unnecessary, which lead to low awareness of different cultures (Figure 2.2). However, it became the main reason Chinese enterprises were challenging integration into the local cultures and recruiting talent to develop potential projects. According to *Bluebook Report on Chinese Enterprise Globalisation 2020*, 10% of enterprises believe that cultural conflict affects their regional developments, compared to other reasons such as lack of international

[10] Source from: Chinese private enterprises status quo investigation and research report in the context of B&R. Available at: https://www.thepaper.cn/newsDetail_forward_5060857. Accessed date: 30th Jan, 2020.

competitiveness (10%), financing difficulties (9%), lack of understanding of global political and economic forms (8%) (En.ccg.org.cn, 2018).

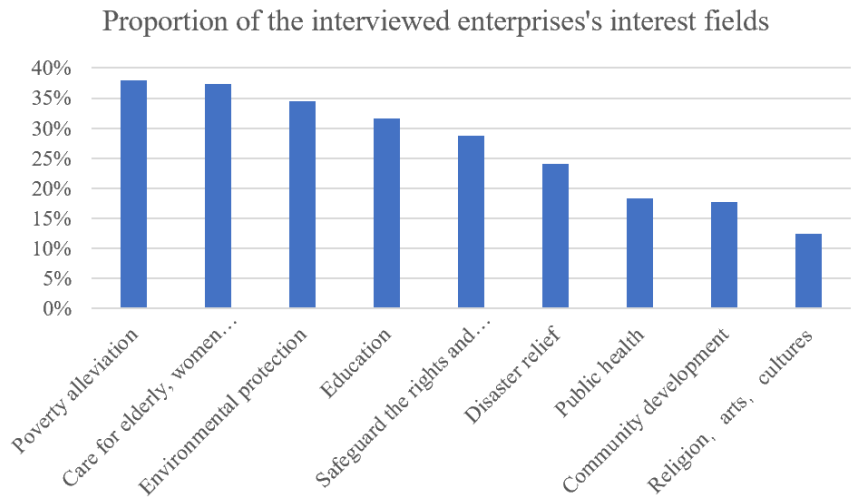


Figure 2.2 The areas of interest to the interviewed enterprises (data from the Chinese private enterprises status quo investigation and research report, edited by the author)

Secondly, apart from the historical influence, shadows from modern memory could also shroud the B&R. Historically, many countries along the Silk Roads were either colonised or bordered by the Western industrial world from the seventeenth century to the eighteenth century. Unlike the widespread Silk Roads in China, the history built around manuscripts, silk and other objects did not provide the material foundations for European practices in Asia and decolonization. Because of this historical context, their modern history was oriented and written mostly by western scholars. This background decided that the West's influence still plays a significant part in the local social-political system. Therefore, this background naturally would offer the B&R an unwanted label of the external intruder and aggressive colour. These partner countries could accordingly understand the initiative as a realisation of China's new global hegemonism. Australia, the United States, India and Japan are discussing a joint regional infrastructure plan as an alternative to China's B&R initiative to counter Beijing's international influence (BBCNews, 2018).

In general, these complicated views could significantly restrict the construction process of B&R and arouse intricate social and political troubles in local communities. As mentioned, it reflects that the world's understanding of China is still very insufficient and ambiguous. China needs to explain, clarify and demonstrate itself via

a highly efficient tool. From the perspective of Chinese history, there is indeed a humiliating period of lack of voice in the international arena. However, China's position is rising, and it needs to show its cultural soft power to the outside world. In addition to news media, festivals and Confucius institutes, it is also indispensable for the cross-cultural display platform. British museum studies have undergone a transformation of social and cultural inclusion, a reference for Chinese museum developments. Therefore, if the museums can improve cross-cultural communication, it will not only contribute to the public's cross-cultural communication and cognition to the shared future but local talent recruitment and enterprise integration in the next stage.

In addition to the geopolitical implications, cultural distance is undoubtedly another obstacle. Following the "going-out" strategy of B&R, the *Outward Foreign Direct Investment* (OFDI) has progressed in full swing. However, it is affected by cultural distance. As Triandis argued in his paper *Culture and Conflict*, the term "cultural distance" is an essential concept of cultural diversity that includes language, religions, lifestyle, and values (Triandis, 2000, pp. 145-146). It claims that cultural distance represents the differences between the home country's national culture and counties that invest. The scholars found out that the more significant cultural differences, the less direct investment from China (Zhang and Xu, 2017).

In addition to the influence on OFDI, "cultural distance" is also a problem for interaction between different countries. According to Kevin Coffee, the previous American president Truman believed that cultural hegemony was enhanced to meet the Communist's cultural idea through Africa, Asia and Latin America during their anti-colonial social movements between the 1950s and the 1960s (Coffee, 2008). Supposed failure to engage in exchanges will be trumpeted as "cultural hegemony" in Chinese cultural exports. Since the 1950s, Chinese architects have designed many buildings overseas as part of foreign-aid projects. Besides helping the less-developed countries construct their infrastructures, they were often tasked to export political ideas and influences. Under such circumstances, the buildings often served as symbols of Chinese characteristics. However, different from those foreign-aid projects, B&R advocates equal dialogue among the member countries. Therefore, the new idea of

museums as cross-cultural contact zones focuses on the communication between different cultures.

2.2 The potentials of museums in cross-cultural communication

2.2.1 The definition of museums

In order to discuss the role of cross-cultural museums in the context of B&R, it is vital to know the development of museums with the changes of social demands. The last century has seen significant changes in the museum's social value. It has transformed chiefly because of the controversial feature of the collection – used to be the central purpose of the museum, is no longer so important compared with education. The changes in museums can be seen from the definition by ICOM (International Council of Museums).[11]

In 1946,

> The word "museums" includes all collections open to the public, of artistic, technical, scientific, historical or archaeological material, including zoos and botanical gardens, but excluding libraries, except in so far as they maintain permanent exhibition rooms.

In 1974,

> A museum is a non-profit making, permanent institution in the service of the society and its development, and open to the public, which acquires, conserves, researches, communicates, and exhibits, for purposes of study, education and enjoyment, material evidence of man and his environment.

According to the ICOM Statutes, adopted by the 22nd General Assembly in Vienna, Austria, on 24 August 2007, the definition of a museum at its current stage is,

> A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches,

[11] ICOM. Museum. Museum Definition. Available at: http://archives.icom.museum/hist_def_eng.html . Accessed date: 23rd Jul, 2020.

> communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment.

Following the processes of active listening, collecting and collating alternative definitions through its standing committee on *Museum Definition, Prospects and Potentials* (MDPP), the ICOM, at its 139th session in Paris 2019, solicited a potential museum definition (which needs to be voted on at a further stage):

> Museums are democratising, inclusive and polyphonic spaces for critical dialogue about the pasts and the futures. Acknowledging and addressing the conflicts and challenges of the present, they hold artefacts and specimens in trust for society, safeguard diverse memories for future generations and guarantee equal rights and equal access to heritage for all people. Museums are not for profit. They are participatory and transparent, and work in active partnership with and for diverse communities to collect, preserve, research, interpret, exhibit, and enhance understandings of the world, aiming to contribute to human dignity and social justice, global equality and planetary wellbeing. [12]

From the definition and potential description of the museum above, the changes can be summarised as:

- the social status of a museum is emphasised as non-profit since 1974;
- the study, education, and research purposes have grown in importance in the last thirty years, while the active participation and engagement of visitors are proposed in the new potential definition;
- cultural diversity and other social issues are all becoming museum's concerns and require a critical voice;
- The new description in 2019 has a more positioning of a museum and a greater social responsibility.

[12] ICOM.Museum. ICOM announces the althernative museum definition that will be subject to a vote. Available at:https://icom.museum/en/news/icom-announces-the-alternative-museum-definition-that-will-be-subject-to-a-vote/. Accessed date: 23rd Jul, 2020.

2.2.2 The developments of museums from the origins

The museum's origin began with the Renaissance and Baroque period, known as the "cabinet of curiosity" (*Wunderkammer* in German) in Eurocentric countries. The earliest record of the cabinet was Ferrante Imperato's *Dell' Historia Naturale* (Figure 2.3). Indeed, it was not exactly a museum, which builds for the upper class's curiosity at the beginning, to show their personalities, intelligence, erudition, wealth, and taste. Also, people were eager for discovering the relationship between humans, god, and nature during the sixteenth and seventeenth centuries. The science and authenticity of the objects did not matter to the collector. The cabinets sometimes did not mean to be scientific; they were a place that represented their owner's control of the world. Accordingly, the spatial language was simple with the mishmash of artefacts, animal and plant specimens. The objects covered each side of the room, even the ceiling, different from the modern display.



Figure 2.3 Engraving from Ferrante Imperato, Dell' Historia Naturale (source from Wikimedia commons) [13]

[13]Source from: https://commons.wikimedia.org/wiki/File:RitrattoMuseoFerranteImperato.jpg. Accessed date: 27th Jul, 2020.

Stephen Greenblatt has defined it into two aspects as “wonder” and “resonance”, which focused on collecting rare objects rather than display (Greenblatt, 1990, pp. 19-20). The Pitt Rivers Museum in Oxford, for example, is still displayed as the type of cabinet. It features the university’s archaeological and anthropological collections, which is still a museum that keeps the tradition of encyclopaedias (Figure 2.4).



Figure 2.4 The interior of Pitt Rivers Museum (source: author)

Unlike modern museums, the Pitt Rivers Museum maintains the exhibition arrangement from the founder of the museum – General Pitt Rivers. It is also named a “museum in a museum” (Burrell, 2014). Its collection has grown from 20,000 specimens at the beginning to more than half a million today (including objects, photographs, and manuscripts in the archives).

In terms of its distinctive narrative method, the same functional objects from different cultures are crowded into the same showcase to show the equal dialogue between different cultures. For example, various cultural groups worldwide used various materials to produce musical instruments, showing a pursuit of music. There are also sacrificial objects of diverse ethnicities, which convey the piety of religious belief (Figure 2.5). Hence, through a similar arrangement and combination of different cabinets, it conveys that cultures worldwide have the same demands and basis for life. It aims to convey the equality of all nationalities, and there is no distinction between nobility and savagery.



Figure 2.5 The narrative model in the Pitt Rivers Museum

(source from https://v21artspace.com/pitt-rivers-museum)

In order to convey this big idea, the mazy spatial layout makes it possible for people to discover and explore new things at different times, which also indicates the complexity of civilisation. It also generated the hidden connections between different objects that none are more advanced or more important than the others among all cultures. Everything from the necessities of daily life to the pursuit of art and spirit is juxtaposed. Moreover, the exhibits serve as storage entities that visitors can open in any display case drawer to read or touch. Hence, the Pitt Rivers Museum has created such an explorable and touchable narrative to encourage visitors to explore their emotional resonances, rather than just seeing objects that have been specially selected for them. Its retro storytelling method has defined the museum as an objects-orientated museum. So the form of "container" (museum building) becomes less important than its museum content.

Different from the personal cabinet, the social requirements began to change, and a demand to open museums to a broader public emerged since the seventeenth century. It was believed that a new society with a model of moral virtue would be constructed through the museum institution. For example, Elias Ashmole donated his private collections inherited from the Tradescant family to Oxford University, forming the Ashmolean Museum (1683). Similarly, one of the first public museums, the British Museum, was set up when Hans Sloane donated his collections to the Royal Family (1759). The Louvre's opening (1793) in France marked the museum's entry into a new national stage of development. The concept of museum architecture came into being. In the early stage, the architectural manifestation was always connected to the comprehension of metaphysical aspiration. Influenced by the *mouseion* in the city of Alexandria, the museum was traditionally understood as a temple of knowledge. Hence, the architecture itself was defined to represent the sacredness of knowledge.

The symbolic meaning of the museum treated it as *a temple or cathedral*, which served the museum building as a monument (Cameron, 1972). The classical symbols, especially, have always been treated as the standard for museums. Ancient Greek temples inspire the original architectural language of museum buildings, and especially one of the famous temples is the Parthenon in Athens. Elements such as columns, frieze, and pediments are usually applied in museum architecture to enhance historical values.

Until the nineteenth century, the function of museum space had been emphasised in the *Brief Course of Paris Comprehensive Engineering School* (Durand, 2000). The French scholar Louis Durand (1802) takes the museum as a particular type of architecture through design for a museum(Figure 2.6).

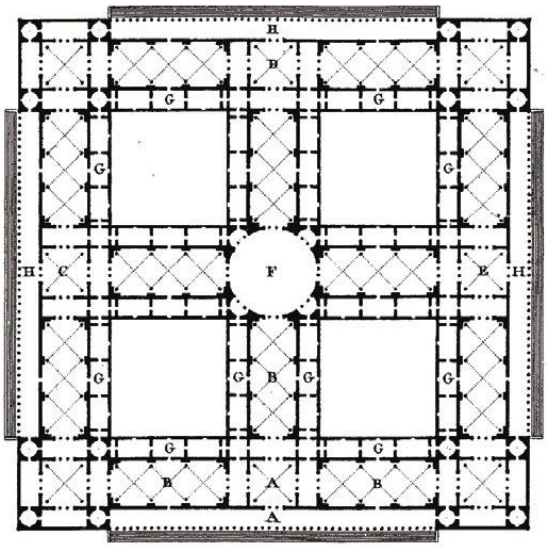


Figure 2.6 Louis Durand's design for the museum (Durand, 2000)

Moreover, the museum design focused on the scientific classification of collections in the late nineteenth century. In this period, there is no expression of the display, "observation of objects as they were classified as knowledge" (Wineman and Peponis, 2010, p. 90). According to *Museum Architecture: A Brief History*, Michaela Giebelhausen claimed that no new types of museum building had been generated since World War II (Giebelhausen, 2006). Similarly, Nikolaus Pevsner also said that:

> no new principles have turned up, except that the idea of the museum as a monument in its own right has been replaced by the idea of the museum as the perfect place to show, enjoy and study works of art (or of history or science).[14]

Since World War II, The museum as a "temple" was replaced because of various functional requirements, and modernism significantly influenced the museum building. The modern architectural language slogans, such as "less is more" (minimalism) [15], "form follows the function" (functionalism) [16], were proposed from the nineteenth to the twentieth century. Since the 1970s, museum architecture has undergone a period of diversified development. Because the architects are not trying to express the essence of particular regions nowadays, they would like to use local features as the concept to stimulate original, unique, and local context-relevant architectural ideas. With the influences of post-modernism, the museum architecture and its space shows significant individual characteristics influenced by various factors, such as architectural form, function, technique, decoration, contextualism, and aesthetic values.

The development of the architectural form of the museum represents the meaning of the building itself, on the one hand, and influences the way the museum is presented and narrated on the other. Nowadays, museum has transformed from being objects-orientated to visitor-orientated, and the classification of museums has been more detailed.

[14] Nikolaus Pevsner. *A history of building types*. London : Thames and Hudson. 1976, p.136.

[15] "Less is more" is as known as architect Mies van der Rohe's aesthetic concept. He advocated extreme simplicity of design, which means every detail to serve for multiple functional purposes. It has a vital influence on the development of modern architecture. Similarly, Buckminster Fuller also adopted "doing more with less" as a trend for architectural technology and constructions.

[16] "Form follows the function" claims that the design work should start from its function rather than aesthetics. It was proposed by American architect Louis Sullivan and widely applied through architectural and industrial design in the early twentieth century.

2.2.3 The classification of museums

The definition of a museum is broad. Museums have recorded all aspects and social relationships of human history, including languages, religions, scientific progress, music and arts, architecture, dramaturgy, educational development, agricultural development. As storehouses of ideologies and cultural practices, museums become the practices of display objects, which become symbols that have been conveyed as storytellers and interpreters of how and why to understand those symbolisation (Coffee, 2008). It is a physical method that connects different human civilisations from other regions.

Both tangible and intangible heritage are exhibited in museums, and they can be divided into different types. For example, museums are classified into five types according to Encyclopedia Britannica:[17]

- General museums – multidisciplinary or interdisciplinary museums;
- Natural history and natural science museums – origins in the cabinets of curiosities since the Renaissance and Enlightenment;
- Science and technology museums – scientific ideas and applications since the Enlightenment;
- History museums – collections presented to give a chronological perspective;
- Art museums – to show the object's aesthetic value;
- Virtual museums – the data of historical, scientific or cultural interest that are accessed through electronic media.

The Chinese experts and authorities divided the museums into four types:[18]

- The comprehensive museums;
- The cultural-historical museums;
- Art museums;

[17] Types of museums. Britannica.com. Available at: https://www.britannica.com/topic/museum-cultural-institution/Types-of-museums. Accessed date: 23rd Aug, 2021.

[18] National Cultural Heritage Administration (NCHA). *An Introduction to Museology in China*. Beijing: Cultural Relics Publishing House. 1985. pp. 39-42.

- Science and technology museums.

In China, the cultural-historical museums include the museum of archaeology sites, museum of historical relics, museum of war and military, museum of historical themes and museum-related to historical events. Arts museums exhibit aesthetic value, which includes galleries and museums of culture and art. Museums of nature and science mainly show human cognition of the living environment relating to the species of animals and plants, astronomy and geography, natural science and technical science. The comprehensive museum provides a full range of displays. Compared to the two classification systems, there are similarities in the basic museum types.

Besides the classification above, "following the turn in contemporary humanities to understanding the role of the senses in human experience" (Witcomb, 2015, p. 322), museums have become increasingly engaged with embodied, sensory and emotive forms of knowledge in recent years. In other words, personal experience has become paramount. During the middle of the nineteenth century, researchers from UK museums have already proposed that the museum should encourage the audience to interpret the objects actively. However, it is arguable whether museums should concentrate on providing a complete typology of specimens, or they should display their best collections, their "treasures", to attract more visitors (Forgan, 1994). The museums can be divided into two types based on this discussion, which are encyclopaedia museums and visitor-oriented museums. The encyclopaedias museum is objects-oriented, which can be traced back to the archetype of the museum as a "cabinet of curiosity". The museum buildings act as just containers without any requirements of cultural or aesthetic meanings.

On the contrary, the visitor-oriented museum also needs to care about the interactive experience and entertainment of visitors. The visitor's experience sometimes is even primary instead of objects display. In this case, the exhibition space design is enhanced, and it also provides the multimedia embodied experience through various devices. However, the information presented is limited due to the capacity of the multimedia device. What is more, the museum still needs the objects entities to intrigue audiences. No matter how museums are classified, the nature of the museum is to communicate and convey information/knowledge to a broad public. Hence, establishing a museum

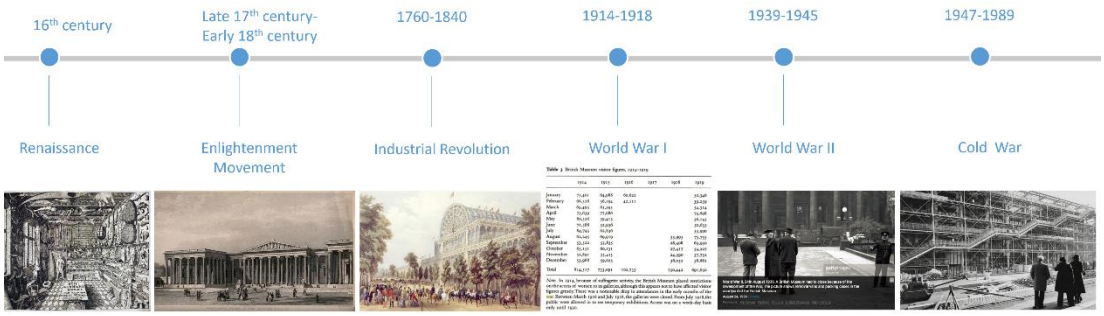
is inseparable from four aspects: transmitter (designer), receiver (visitor), information carrier (objects) and place (museum architecture).

In this study, intercultural museums or mixed culture museums are a new idea. Although historical museums are primarily presented in chronological order, in museums of intercultural exchange, expressions need to be reconsidered to present different cultural themes at the same time. The cross-cultural museum is the research object as it has a close relationship with the stories of the history of Silk Roads. People along the Silk Roads share historical memory and create future cooperation. Moreover, compared with other types of museums, the cultural-historical museum has a strong demand for narrative as a means of telling stories of various cultures and encouraging visitor's interpretation and communication. It not only offers their perception but stimulates emotional resonance. Therefore, the narrative approach and how to express the cultural significance among different cultures are critical issues for architect's discourse. In order to draw this question, it is vital to learn the development of museums.

2.3 The social value of museums in different social contexts

2.3.1 The evolution of the social identity of museums

Except for the developments of museum architecture, the museum has been changed along with its social-political environment. The following figure shows the changes of the museum based on its social requirements at the world stage (Figure 2.7):



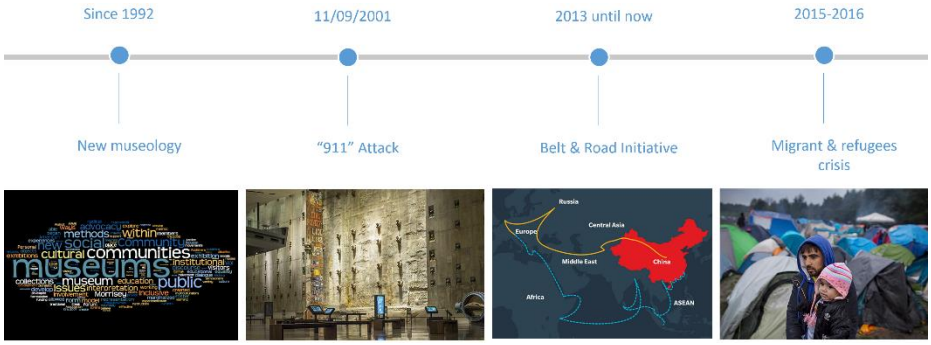


Figure 2.7 The changes of the museum from the beginning (source: author)

During the sixteenth century, collections were maintained by prominent individuals. They treated collecting as a social activity and a way to assert their status. The personal collections are the origins of the museum. It was not until the late seventeenth century that the concept of the museum appeared during the Enlightenment Movements. It was advocated that museums should be open to the public for educational purposes. Importantly, the Enlightenment Movement shaped the concept of difference and race in European countries (Mita, 2016), and so the museum became a way to recognise racism. As Mita quoted it,

> The Enlightenment's declaration of itself as "the Age of Reason" was predicated upon precisely the assumption that reason could historically only come to maturity in modern Europe, while the inhabitants of areas outside Europe, who were considered to be of non-European racial and cultural origins, were consistently described and theorized as rationally inferior and savage. (Mita, 2016, p. 2)

Following the Enlightenment, the European countries began collecting, displaying, and classifying objects from everywhere as permitted by colonialism and imperialism. Museums took responsibility for recording exotic items, which led to anti-racism currently. From 1760–1840, scientific innovations and technological improvements contributed to the advancement of agriculture, industry, shipping and trade and the expansion of the economy. The Great Exhibition in Crystal Palace in 1851 aimed to show that technology was the key to a better future, which also have significant influences on museums display. The museums began to show the fruits of industrial developments.

Even during times of strife, such as World War I (1914–1918), the number of visitors to the British Museum did not decrease. As John Burns stated, the museum should provide a way of relaxing for the great mass of the people during wartime (Kavanagh, 2014). During World War I and II (1939–1945), the museums were collection-oriented to preserve as much of the collections as possible. After the war, America started the "Marshall Plan" to provide economic assistance for all European countries willing to participate. Following this revival strategy, the museum boom broke out during the mid-1970s as an urban redevelopment tool such as Centre Pompidou in Paris (1977). Simultaneously, the "New Museology" was proposed to shift the museum's attention from their collections towards visitors (McCall and Gray, 2014; Espacio(EVE), 2015).

During the *Quebec General Conference of ICOM* in October 1992, the Advisory Committee recommended that a Working Group be established to address cross-cultural issues and their impacts on museums. The purpose was to examine the ways that museums throughout the world were addressing the wide range of topics with cross-cultural dimensions and to provide guidelines to address cultural diversity. This social requirement produced *inclusive museology***,** which can handle different contextual frameworks of cultural diversity, including an assortment of interactions and cultural borders. These borders include race, colour, gender, language, faith, economic status, and other aspects. Especially in the UK, the election of New Labour in 1997 made a difference in government policy, with aims to tackle the cause and symptoms of exclusion, meaning the museum was asked to assume new roles and develop new ways of working to improve "social inclusion" (Sandell, 2003).

The term *social inclusion* was widely used in museums from 1998, and with the growth in influence of social history curators in Britain, museums have been becoming more community-oriented (Sandell, 1998; Dodd and Sandell, 2001). Museums and galleries were also recognised for "their potential for education, combating social exclusion and promoting urban regeneration" (Sandell, 1998, p. 46). At the beginning of the twentieth century, a significant change in the exhibition design scope was happening. Visitors to museums were no longer satisfied with merely gazing at worthy displays of exhibits in glass cases. Therefore, with the development of the hands-on interactive device emerged – a kind of interactive exhibition that offered visitors bodily involvement. Caroline Lang et. defined the museum as a responsive environment

(Lang et al., 2006, p. 66), which allows the visitor to use hands as the primary medium to achieve communication activities (Wang, 2016). Museum's social role evolved to encourage interaction with audiences, which represented the museum has evolved into a visitor-oriented place further.

The terrorist attacks of 09/11 in 2001 caused increased division between ethnic and religious groups, which led to a situation of hatred worldwide. In this case, cultural identity and diversity became a hot topic. Following the 9/11 attack, the US has used the incident to launch world domination in the name of anti-terrorism. Simultaneously, the security problems in Central Asia have returned to the centre of the world. Although US forces and the Taliban government killed bin Laden, the US's war did not stop there. The US has launched into the heart of Eurasia after the conflict of Afghanistan and Iraq. Also, the US send the military to the middle east area and controls Malacca. In addition, the US began pushing hard to contain China's "return to Asia" strategy, which led China to launch the "Belt and Road Initiative" in 2013.

Since 2015, the immigration crisis has broken out because of the Syrian War. The European countries such as Germany, United Kingdom, Greece accepted massive amounts of refugees based on "humanitarianism", which began in the mid-eighteenth century and arose out of the general European Enlightenment. The humanitarian movement provides an opportunity for resource sharing for people who come from different cultural backgrounds. The museums began to think about their discourse between native and foreign cultures.

Based on the above description, it is clear that the development of museums is closely linked to social and geopolitical demands. From the World Wars to the B&R, the relationship between these changes can be traced and correlated. The development and changes in museums are closely linked to geo-cultural forces. It not only protects the inventions (knowledge) of human beings but also encourages people from different groups to gather together to know and learn from each other, which means museums are no longer traditional institutions to civilise or educate people. Correspondingly, there have been qualitative changes in the exhibition space of museums, which evolved into a place for both education and communication purposes. However, China's museums are still not fully mature, especially between exhibition and museum

architecture. In order to provide design suggestions to the Chinese architects for cross-cultural museums in the context of B&R, it is vital to learn the primary issues of museum's development in China.

2.3.2 The museum's development in China

In the first chapter, the author briefly describes the museums in the B&R countries. According to UNESCO's statistics, the museums along the Silk Roads can be summarised in the following table (Table 2.1). It shows fifteen cultural-historical museums from different countries. All these museums are national museums, and while interpreting history, these museums also represent the national image and social-cultural identity. In other words, each state has used museums as an approach to construct citizenship identity, including national, ethnic, and religious identity. The national museums focus on the purposes of education and declaration rather than communication. Therefore, this study actually criticises the national museums to become the place for cross-cultural communication.

Table 2.1 The museums along the Silk Roads (source from UNESCO)

Theme	Name	Type	Country
Land	Tang West Market Museum	National civilian museum	China
	The Central State Museum of Kazakhstan	National	Kazakhstan
	National Museum of Afghanistan	National	Afghanistan
	National Museum of Iran	National	Iran
	Azerbaijan Carpet Museum	National	Azerbaijan
	The Iraq Museum	National	Iraq
	The State Silk Museum	National	Georgia
	The Topkapi Palace Museum	National	Turkey
Maritime	Nara National Museum	National	Japan
	National Museum of Korea	National	Korea
	China Maritime Museum	National	China
	China National Silk Museum	National	China
	Asia Civilisations Museum	National	Singapore
	National Museum of Malaysia	National	Malaysia

With the influences of B&R, this will continue to be the case in the future. However, national museums always aim to manifest the national image and history rather than the cross-cultural hub. The aim of cross-cultural museums, which serve an area or locality, is to establish civic pride and desire to promote knowledge of other cultures.

Two aspects can illustrate the issues of museum's design in China. Firstly, it relates to the stages of the museum's development in China. The second is the practical issues that architects and curators reflect.

The museums in Western countries need to consider the way of displaying their massive collections. Unlike the mature development of museums in those countries, Chinese museums, on the contrary, include amounts of extraordinary buildings filled with few objects. New museums, often of mammoth proportions, are being developed to serve future needs with international expectations. China is now the opportunity for museums to flourish following the infrastructure rejuvenation from the late 1980s. Since 2005, 300 new museums have been established each year with large-scale investment, reaching 4510 in total by the end of 2015. In 2016, there were 4692 museums registered. A new museum was recorded every day and a half on average (TheBritishCouncilChina, 2016). Compared with western museum history, the development of Chinese museums has gone through four stages (Figure 2.8).

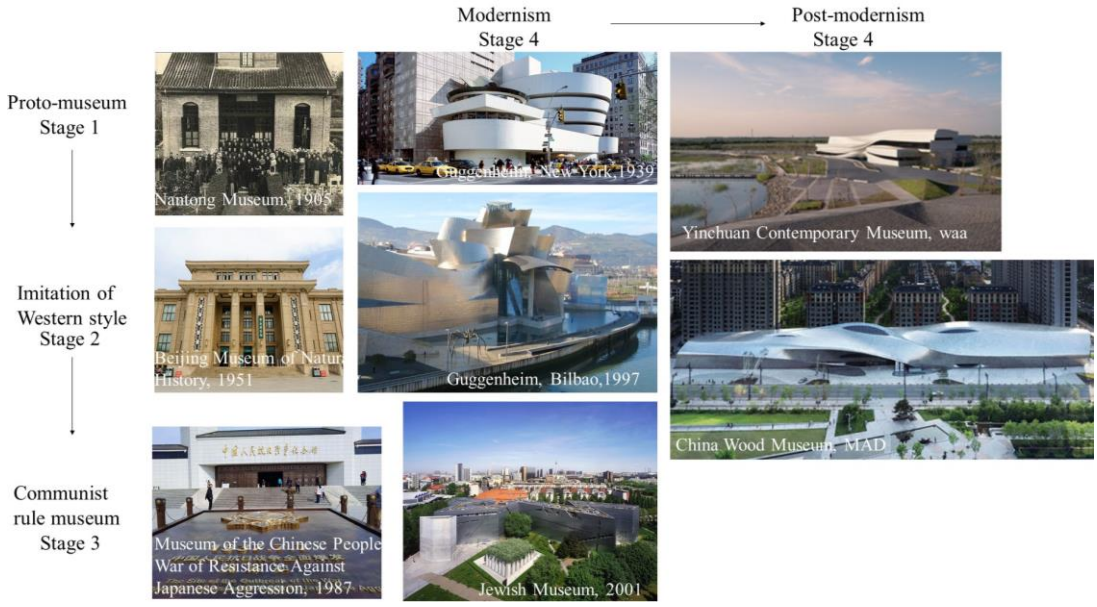


Figure 2.8 Museum stages in China (drawn by the author)

In 1851, the first World Expo in the Crystal Palace, the term "museum" was still unknown in China. The royal family collected cultural relics and treasures for a long time. And then, it entrances a period of proto-museum under the background of the Westernization Movement in the late Qing Dynasty. The first public museum – the Nantong museum, was built by Zhangjian in 1905. The second stage was the imitation

of the Western-style. After the founding of New China, most museums were influenced by Soviet patriotic education. Many museums were built to memorise the period of the anti-japanese war and show the passion and glory of the communist revolution. Nowadays, museums in China are still in the four-stage, primarily focusing on collection display and education to reflect the richness of cultures and respond to national identity. Three representative museums have huge influences on Chinese architects.

- Firstly, The spiralling ramps inside the Guggenheim Museum, New York. Although it has been accused of poor use of space and other issues, it was treated as the unity of function and form of the museum building.
- The game-changer was Frank Gehry's Guggenheim Museum, Bilbao. It provided an instant catalyst for global museum investment and development. Museum administrators and governments saw the potential for a unique building design to improve local economies. Since then, the spectacular museum architecture has often invited brand-name architects.
- Also, the Jewish Museum is a masterpiece of deconstruction. The different themes, such as the Jews' evolution of national history and the holocaust, have been expressed through the metaphor of Libeskind's discourse.

The museum architecture becomes the narrative subject. However, the emphasis on the architectural manifestation has caused the museum content to be neglected or the weak connection. Therefore, public opinions often focus on the aesthetics of architectural expression, which lead to the ignorance of museum content to some extent.

Furthermore, a gap exists compared to the museums in eastern China (Figure 2.9). The uneven distribution among provinces requires building more high-quality museums, especially in those remote areas with ethnic minorities. The positioning of museums has also changed substantially following the introduction of the business model. The museums become a multi-functional fusion of hotels, shopping malls, or cultural centres.

Compared to the saturation of museums in eastern China, there is still a gap of high-quality museums in western China and even countries along the Silk Roads. These

museums should first consider their educational function before introducing other positions. At the same time, those museums also need to rethink their social and cultural values, especially facing multicultural environments.



Figure 2.9 The unbalanced distribution of museums between eastern China and Western China in 2019[19]

To draw the practical issues, ten designers – including exhibition designers and architects, are interviewed (Table 2.2).[20] They were asked and discussed the difficulties and opportunities of the B&R museum's design. The length of individual interviews is different according to their wishes of discussing seven questions. The group discussion lasted an hour.

[19]Source from: http://news.hsw.cn/system/2019/0518/1086086.shtml . Accessed date: 22nd Oct, 2019.

[20] Note: the interviewees are randomly selected from the 2nd Sino-British Exhibition Curator Training Camp. The interview was recorded with the interviewee's consent, and the author attached the transcript in the Appendix.

Table 2.2 The basic information of the interviewees (source: the author)

Interview forms	Interviewee	Name	Company	Work experience	Recording length	Location	Projects
One-to-one	Two curators (museum studies or relative study such as archaeology and historian)	Xun, J	Associate director of Aurora Museum, Shanghai	3	11:57	Reception hall of the University of Chinese Academy of Sciences	Collection management and temporary exhibition
		Meng, Q	Director of Beijing Museum of Natural History	10	Refused	-	Palaeontology and museology
	Two curators in UK	Francis, D	British Museum	5	26:41	-	Exhibition of "Hajj"
		Smith, A	Curator of Nottingham's Natural History Museum	6	39:43	-	Palaeontologist of marine reptiles
	Three architects	Liu, M	Senior architect of Beijing Institute of Architectural Design	30	20:20	-	Exhibition building, commercial centre and urban complex
		Wang, J	Assistant architect of Beijing Institute of Architectural Design	5		-	Exhibition building
		Guan, F	China Architecture Design and Research Institute	12	Refused	-	Ding zhaozhong Museum
Group discussion	Seven curators (interior designers)	Qi,W; Liu, H; Li, C; Chen,L.; Wang,X; Peng, Q; Ji, W	Various interior design companies	-	54:10	-	Museum display and installation

The interview questions are closely related to their opinions on the relationship between the design of architecture and exhibition space. There are mainly two parts to the interview. The first part is asking them to talk about their views from different angles. The second part related to their opinions on the cross-cultural museum design

in the context of B&R based on their experiences. What's more, the architects and curators were asked about their priorities in the museum's design. For architects, the interview focused on the factors that influenced the design of the museum building. For curators, the interview investigated influences between the building and exhibition.

Table 2.3 analyses the interview data based on an inductive approach. There are several main steps: firstly, the authors translated the interview transcripts into English. Secondly, the authors categorised their opinions step by step. Finally, agreement and disagreement could be coded according to the classification.

The curator from the Zhendan Museum disagreed with the connection between architecture and exhibition design. She believed that the curator should be able to design the exhibition in different types of buildings. However, the author doubts that if the architects ignore the story of the collection, they may be not able to design a matching building to display the content. The exhibition can be shown in any building rather than a specific museum.

Moreover, the two architects also disagree with the connection between museum architecture and exhibition. One believed that architects could produce better exhibitions if they have enough information. He emphasised the urban context and fabric during the design process, especially its relations with surrounding areas and visitors' accessibility via transports. For the museums of the B&R, the architects mentioned the museum's value to the local economy (to create an intellectual property). The other claimed the architecture itself should keep a higher level to show its social value. The building itself exists independently of the exhibition as it carries the cultural significance of the representative city. Their views also reveal the dominance of architects in the design of museums.

However, another architect also highlighted the museum building as the background of the exhibition. It cannot exist without the content of the museum. At the same time, he proposed the opinion that the museum design should be standardised in China.

Table 2.3 Interview summary with curators and architects (source: author)

Interview forms	Interviewee	Key points	Codes
One-on-one	Meng, Q	Museum should employ curators who are responsible for the exhibition content and involve in the architectural design.	Agree: The collaboration between architects and designers.
	Xun, J	The curators should fit in with any spatial structure or architecture; the architects do not need to consider the influences of their discourse. The exhibition needs to emphasis the connections between different cultures in B&R.	Disagree: museum architecture lasts longer than exhibition; the flexible architecture; curators adapt to different buildings; cross-cultural exhibitions.
	Francis, D	The concept of "curator" is different between China and the UK. The stories of B&R initiative should bring both positive and negative stories together.	Different model in designing museum; big star museum building; agree with the collaboration work; focusing on cultural marginalisation; new stories of cultural exchange.
	Smith, A	The relationship between architecture and exhibition design is often overlooked. The curator can fit in potentially into the design process from the beginning.	Agree with the museum design works both ways.
	Wang, J	The urban fabric and social-historical context have significant impacts on museum architectural form and meaning. The spatial configuration influences functional utilization, and the museum building is the backdrop for the exhibition. The different museum types have different design templates.	Agree: The classification of museum decide the shape of the building; the relationship between exhibits and circulation; the creativity of the design concept; the museum development should be more standard.
	Liu, M	The importance of B&R museums is expressed through its economic value. He also emphasised the Centre of Convention and Exhibition China, it combines the German, American and Chinese elements. The so-called "curator" is to write a piece of passionate text and to use multimedia to create a few plots, which lacks awareness of spatial narrative.	Disagree: The combination of different cultural elements; the economic value; architects can do better exhibition design.
	Guan, F	The architectural significance or shape of the museum should express its own value without considering its content.	Disagree.
Group discussion	Seven curators (interior designers)	The disconnection between architecture and exhibition. The marginalization of curator's voice, only 10%-20% of the museums have curatorial involvements in the early stages of design. Most museums are designed with a circulation, which may not match the display.	Agree but doubts it.

The rest curators from the UK and China pointed out to varying degrees the disconnections between architecture and exhibition design. Their opinions can be summarized as follows:

- The curator (David) thought the museum's model is different between China and the UK. Primarily the responsibility of a curator is different. The curator in the UK is usually educated with professional knowledge, while the Chinese curators are the people who learned interior design or plan design as their primary project. The architects prefer to create a "big star building" without thinking about the content, which leads to "all you build these new buildings from you lose the soul of them". The museum design should become a "multi-model" because the stories of a museum are told from all sides, such as space, objects, texts, and digital media. Also, he mentioned, "How can these museums beyond just museums?" The museum should become a "treasure box" that brings different things together, including disharmony stories along the B&R.
- Other curators, mostly Chinese curators, highlighted the challenges of redesigning the museum space after the building is complete and their voice has been marginalised. They even need to change the circulation designed by architects to fit the storyline. Therefore, the building has become a shell that has little connection with its content inside. Moreover, they pointed out that most museum buildings were built as urban sculptures instead of a container of exhibitions. Especially for the relationship between museum space and narrative, there should be different ways of expression. They expressed their desire to be involved in the design of the museum. However, they are sceptical about the possibility of having this opportunity, which is related to the current standard and the support of the museum's owner.

According to the interview, their opinions can be summarised as the gap between the museum building and its narration. It is a phenomenon in the design process of Chinese museums, which affects the communication between the museum and its audiences. The exhibition space of a museum building is a specific context created for particular objects, plots and movements. Therefore, communication between exhibits, visitors and exhibition space is the primary purpose of the place, but it is weakened at the beginning of the design.

In fact, the comments on museum architecture also focus on architectural form and shape. Because the museum design always starts from the symbolisation of cultural value, the theme like the movie, the function such as the natural light and spatial configuration, the relationship with surrounding environments, and the influences of style genres. The metaphor approach is widely used in the early design stage to stimulate architect's creativity to express these aspects. However, if the expression of the building's form is separated from the connections to the narrative inside, the building will become an empty sculpture. Therefore, this study starts with architectural design and uses the metaphorical expression as a breakthrough to establish a connection between the cultural value of the museum architectural space language and museum content. The author believes that metaphor is not only the way to stimulate architects to shape a landmark but to convey the interpretation of the museum's content from an architectural perspective. Whether architectural language or exhibition display, they all relate to narrative and expression. To explore this assumption, it will start to examine how metaphor is applied in architectural language.

2.3.3 Defining museums as cross-cultural contact zones in the context of B&R

As Charlie Campbell discussed in the article *Ports, Pipelines, and Geopolitics: China's New Silk Roads is a Challenge for Washington*, many countries along the Silk Roads are currently suffering from complicated social instability, such as ethnic and religious conflicts, security threats and language barriers (Time, 2017). In particular, religion is at the core of conflicts around the world (Figure 2.10). In this case, the museum building's communication mode is significant as effective communication can enhance the audience's cognition of its narrative.

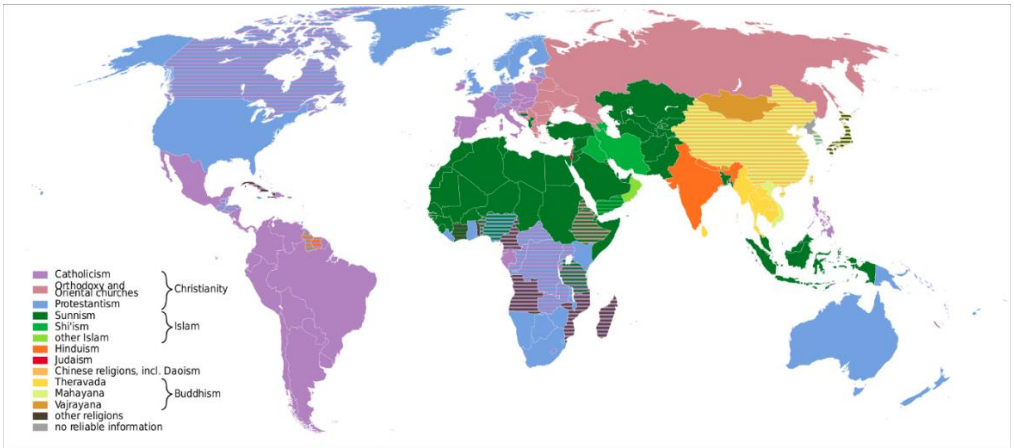


Figure 2.10 The mapping of religions distribution in the world (source from Wikimedia Commons[21])

According to the World Factbook statistics list, only 28.6% of the 65 countries participating in B&R have the same official religion. Among them, 52.2% of Chinese people do not have an apparent religious belief, indicating a lower degree of religious concentration. However, the religious concentration of most countries under B&R is relatively high, such as Saudi Arabia, where almost 100% of the population believe in Islam.

There are apparent differences in mainstream religions in B&R regions, such as Christianity's spread across central and eastern Europe, Islam in western Asia, Buddhism and Hinduism in South Asia. These religious differences make regional economic cooperation between China and other countries potential operationally challenging. Although it is unnecessary to exaggerate religion as a cause of violence, "religion" and "conflicts" are coexistence because of a different system of values and beliefs. For example, the differences between Buddhism, Islam and Christianity has raised the question of whether Buddhism is spreading along the Silk Roads for many years, which will cause new forms of social and cultural conflicts, including threats to the cultures, language and religion of Muslim minorities. However, religion can provide identity, faith and order by linking them together within their communities (Silvestri and Mayall, 2015, p. 5). Hence, cross-cultural communication at the general level, for example, via museums, is the catalyst to promote cooperation in all aspects.

[21] World Religions Map. From Wikimedia Commons, the free media repository. Available at: https://commons.wikimedia.org/wiki/File:World_religions_map_en.svg. Accessed date: 25th Feb, 2020.

For example, the temporary exhibition "Living with gods: peoples, places, and worlds beyond" (2nd Nov 2017 – 8th April 2018) in the British Museum told the stories among different religions. Through the narrative of the exhibition, the understanding of other faiths is enhanced. For those people who hold religious faith, the exhibition expands their horizons to understand others. For those people without religious beliefs, the exhibition gives them a reason to understand others. It shows the power of museums for inter-cultural communication among different cultures and religions.

Section 2.3.1 emphasises that museums are no long authoritative institutions for preserving and collecting objects with the changing of social requirements and public expectations. According to George Hein, a public museums' development can be divided into two stages. In the early nineteenth century, objects' display focused on "imperial conquests, exotic material, and treasures brought back to Europe by colonial administrations and private travellers or unearthed by increasingly popular excavations" (Hein, 1998, p. 3). Since the museum opened to the public, it took the responsibility to strengthen the public's cultural awareness and promote social harmony.

However, different from the passive preaching in the earlier stage, the museums have changed their approaches to encouraging visitor's interpretation. The museums turned into a multifunctional places for public communication among different communities. In the late nineteenth century, museums were defined as informal learning institutions that could offer free-choice learning to the public. Moreover, "multiculturalism" is a positive evaluation and equality to describe the cultural policy (Watson, 2000). With the increasing issues of terrorism activities and confrontations, multiculturalism and cultural-religious conflicts significantly impact museum development. For example, Leicester is one of the most culturally and religiously diverse cities in Britain, containing large numbers of immigration from India, Pakistan, Bangladesh and other countries. 50.52% of the population is white, and 28.3% of the population is Indian.[22] To ease the conflicts between cultural diversity and religious belief, Leicester has established different museums to improve cultural identity, social inclusion and urban

[22] Demography of Leicester. From Wikipedia, the free encyclopaedia. Available at: https://en.wikipedia.org/wiki/Demography_of_Leicester . Accessed date: 11th Oct, 2018.

regeneration. [23] At present, Leicester has become a unique city that regards multicultural harmonious as necessary (Winstone, 1996). The museums as cross-cultural contact zones allow the public to learn and communicate with different groups.

On the forum of *Fortieth Anniversary of International Museum Day* (IMD) on 18th May of 2020, the ICOM shared the theme of "Museum for Equality: Diversity and Inclusion". It provides the keywords for museums' social requirements, including "equality, diversity and inclusion", which should encourage designers to rethink the essence of the museum building. There is an increasing demand for personality in museum architecture at present. However, this character is not limited to the architectural manifestation of the exterior, interior or details (the form, materials, and image symbols). It also guides the Chinese architects to consider their discourse. It is vital to find an expression approach both from the architectural perspective and the museum studies.

2.4 Summary

Since B&R was launched seven years ago, most Chinese scholars (Ke, 2015; Lin, 2016; Lee et al., 2018; Huang and Li, 2020) focused on the background to the B&R, such as its strategic position and significance, infrastructure construction, economic transparent, risk assessment, sustainable energy development and so on (Figure 2.11). While other keywords also appeared frequently, such as environment, security or compliance, which relate to China's trade and investment. For example, the author participated in a private, off-the-record briefing on 13th June 2019. The key speaker, Dr Zheng Zeng, a Senior Researcher and Director of the *National Development and Reform Commission* (NDRC), has spoken about the keynotes from the Second Belt and Road Forum held in Beijing (28th April 2019), and China is addressing international concerns related to the initiative. It was apparent that this theme relates to the B&R revolved around the "open, green and clean" and "high-quality" projects from a marketing cooperation perspective.

[23] A Vision for Cultural Life in Leicester. Leicester City Council. Available at: http://www.cabinet.leicester.gov.uk/documents/s1045/cultur1.pdf. Accessed date: 11th Oct, 2018.



Figure 2.11 Key issue relates to B&R (source from Atlantic council.com[24])

Also, some scholars are concerned with the diplomatic policy and the interests of other major countries, especially the United States, Russia and India (Nordin and Weissmann, 2018; Timofeev et al., 2017; Jacob, 2017). Therefore, B&R covered almost every aspect of economic investment, energy, and policy, which is impossible to develop unilaterally from China. Different regions are also committed to the possible research of participating in the B&R. Foreign observers are examining B&R from a geopolitical ambition perspective to reveal the global implications. For example, "The Belt and Road Initiative and China's influence in Southeast Asia" (Gong, 2019), "Looking at China's Belt and Road Initiative from the Central Asian Perspective" (Kohli, 2017), and "China's Belt and Road Initiative and India's Concerns" (Blah, 2018).

However, the investment of projects under B&R focus on transportation and infrastructures constructions at an early stage. Large amounts of money are invested in the projects of new roads, railways and port facilities. Cultural institutions are not the primary focus. Thus, the scale of the investment and the management mode for constructing cultural institutions such as museums in the next stage becomes an important issue. In particular, museums of cultural and historical collections with more narrative content of the shared memories and multicultural communications claim to embody the experience rather than the art museum, which privileges the visual

[24] Ellen Riina. Silk Road 2.0: US Strategy Toward China's Belt and Road Initiative [online]. Available at: https://www.atlanticcouncil.org/commentary/event-recap/silk-road-2-0-us-strategy-toward-china-s-belt-and-road-initiative-2/. Accessed date: 30th Oct, 2017.

experience (Karp et al., 1992). In the author's opinion, there are two issues with cross-cultural communication from the social-political perspective.

Firstly, some foreign media may have opposite opinions on B&R (Jacob, 2017; Chatzky and McBride, 2020; Gu, 2020). For example, Professor Howard Davies, who came from the Hong Kong Polytechnic University, said, "media coverage and analysis often remain significantly misinformed because China is structurally and culturally different from the US and Europe" (Scio.gov.cn, 2017a). Since the Han Dynasty, the Silk Roads development was inseparable from the building of troops and counties. Trade and cultural transmission were no longer spontaneous and were regarded as aggressive, especially the well-known tributary system in the Tang Dynasty. These historical political and diplomatic means link the B&R to hegemony.

Secondly, the current literature did not pay enough attention to the impacts of cross-cultural communication on B&R nowadays (Youtube, 2017). In 2013, when president Xi gave the speech of launching B&R in Kazakhstan, he mentioned the historical cultures of Silk Roads. However, one of the problems is that the B&R currently functions as cooperation and cultural convergence between governments and institutions. The public within the B&R context has little knowledge about its history, culture and memories. It is challenging to generate empathising and cognition in all aspects. Therefore, cultural distance exists. After understanding the motivation of B&R, its potential challenges and how to mitigate them through cultural communication, primarily through museums, can be concluded.

Cultural exchange along the Silk Roads is an inseparable product following the trade and exchange activities throughout history. This exchange played a stabilizing role in regional security and identification for thousands of years. In 2013, President Xi stated that the peoples and countries of the Silk Road had seen thousands of years of cooperation, despite "differences in race, belief and cultural background" (Brakman et al., 2019, p. 6). Thus, in promoting the B&R, cultural communication and exchange should be an inevitable element when people from different countries meet and collaborate for tangible infrastructure projects and intangible cultural projects. As Kang Lili et al. (2012) argued, the influences of the B&R on China's OFDI during the period between 2010–2015 show the "boosting effect of the OBOR Initiative on

institutional cooperation and cultural convergence", which will stimulate the doubts for "the infrastructure-led and institution-based strategy of the OBOR Initiative"(Kang et al., 2018, pp. 10-15). If the cultural convergence is handled with enough wisdom, it could be a potent promoter for the B&R.

Since the 1990s, most world conflicts have changed into ethnic conflict, nation separation and religious war (Betts, 2013, p. 27). Therefore, without communication or without an open-minded atmosphere for people to communicate and understand each other, the realisation of intercultural communication could be challenging. To improve the understanding between nations, religions, ethnic groups and cultures, sincere and honest contact is required, and China has put some effort into this aspect. A wave of cultural projects around connected pasts has formed as multiple countries appropriate Silk Roads histories for strategic advantage. Many cultural exchange activities through different disciplines have been developed with partner countries within B&R, such as arts, dance and drama, Filmfest, and Confucius Institutions, especially multiform temporary exhibitions between different countries via museums. Hereinto, the "Belt & Road International Conference of Museum Cooperation" was hosted in the Capital Museum, China, on 18th May 2017.

Moreover, the *First International Symposium* on the *Development of Natural Science Museums* under the B&R initiative was hosted by the *Chinese Association of Natural Science Museums* (CANSM) on 27th Nov. 2017. The senior staff member of CANSM, Mr Chen Chun, said, "We have received many invitations and proposals from the B&R partner countries, who want us to help them to build world-class museums. I can see that they want to establish deeper communication and understanding with us on culture" (SACH, 2017; Xinhuanet, 2017a). Until September 2017, the members of the Silk Roads international museum alliances have increased to 81 museums in 16 countries (Scio.gov.cn, 2017b). Extracting the essence of cultural diversity and building cultural trust can contribute to the effectiveness of international cooperation. "Exchange will replace estrangement, mutual learning will replace clashes, and coexistence will replace a sense of superiority", as Chinese President Xi Jinping announced at the *Belt and Road Forum* in Beijing on 14th May 2017 (XinhuaNet, 2017b). China is seeking a better way to promote a healthy cultural exchange. Cross-cultural communication is

like a “bridge” – once the “bridge” is built, it will bring a significant and rapid improvement to trade, technology, modernisation and other fields.

Therefore, the museums as cross-cultural contact zones will play vital roles in cross-cultural communication. More importantly, the museum can provide a venue to encourage visitors from different ethnic groups to contact each other, which helps to reduce cultural distance. This issue is why cross-cultural museums need to be designed based on the narrative, especially when it comes to showcasing Chinese and other country’s native cultures. On the one hand, China’s current cultural and historical museums are all in a chronological style. It isn’t easy to understand the objects in a specific context for those unfamiliar with Chinese dynasties. On the other hand, the collections of Chinese cultures are dominated by paintings, porcelains, bronzeware, coins and ornaments, which are all the same to ordinary people from different cultures, so it is difficult to resonate in the form of a chronological display.

When exhibits are displayed in the museum, establishing a close connection between objects, space and visitors, it refers to the relations of objects-objects, space-objects and people-objects by exploring their relationship. These elements are the determinant factors in the museum architecture design. Hence, the museum designer, especially architects, need to reconsider the way to express and convey their concepts for multi-cultural communication because the museum, in this case, is not only a container for displaying objects. The following chapters will mainly focus on the metaphor as an approach to convey architect’s discourse to examine the fundamental challenges to the museums’ design in the macros-context of B&R.

Chapter 3

Reviews on Narrative, Architecture and Museum Studies

The existing studies on the museum narrative usually separate the architectural design from the museum studies. So there is still a gap between them. When the narrative is applied for museum studies, it refers to the original appearance of literary narratology, which focuses on the time, plots and display sequence. In comparison, the narrative in architecture can be reviewed from three aspects, theory, practice and analytical research through space syntax. The Chinese architects focus on exterior architectural form and spatial layouts. The exhibition space, on the other hand, becomes interior installation by interior design companies. Therefore, the architectural narrative often emphasises how the spatial configurations organise the exhibition, with little focus on how the exhibition narrative influences the meaning of architectural language. As narrative is the common language between museum architecture and exhibition, this chapter will review the relationships between them.

3.1 Brief introduction

3.1.1 Narratology

The earliest application of narratology can be traced back to Aristotle's literature and poetry, which pointed out the concept of "mimesis and diegesis" (Halliwell, 2012). This concept was a practice of writing poems and literature, and it was also a practice for reading them (Whitehead, 1992).

The term "narratology" came from the French "narratologie" produced by the French historian, philosopher, and structuralist literary critic, Tzvetan Todorov. He claimed a research shift of narratology from the text-based surface narrative (discourse in letters, words and sentences) to the narrative as a logical and structural attribute. Based on Todorov's concept, narratologists were interested in defining the commonality of the

narrative. As a result, there was a concise definition of narratology. And it was described as "the set of general statements on narrative genres, on the systematics of narrating (telling a story) and on the structures of plot" (Ryan and Alphen, 1993, p. 110).

Until the 1960s, the development of structural linguistics inspired the improvement of narratology. The philosophy of structuralism regarded literature as a sign system with internal rules and the relations among its internal components. Influenced by structuralism, narratologists turned their attention from the outside of the text to the inside of the text, which paid attention to science and systematises. They explored the internal structure, operation rules and expression methods of narrative. Therefore, narratology was defined as an independent and autonomous system. Saussure claimed that linguistics is a branch of semiotics. Narratology then established a relationship to the semiologic concept of "signifier/signified". It treats a story as a narrative message supported by certain signs. In Saussure's opinion, a text does not need to be connected with the outside environment, and the critical point is to discuss the internal structure of the text (Saussure, 1966). In other words, Saussure stressed the synchronic model. He claimed that all meanings of a text are reflected by itself. However, the narratologist held a different opinion and focused on the diachronic model, which means external factors such as cultural backgrounds to analyse a text empirically.

By combing these two opposite views, the narratologists claimed narratology research should consider both internal structural logic and the context in which the text exists. In short, narrative emphasises the relationship between the expression form and the content. The development of structural linguistics made narratology jump out of literature and was widely applied to other disciplines. As Roland Barthes said in his paper *An Introduction to the Structural Analysis of Narrative*, the narrative is "present all times, in all places, in all society… like life itself, it is there, international, transhistorical, transcultural" (Barthes and Duisit, 1975, p. 237).

Moreover, Barthes also proposed five codes for every narrative to maintain connections with audiences: *the hermeneutic code, proairetic code, semic code, cultural or referential code, and symbolic code*. Specifically, the *hermeneutic code* is to hold the audiences' attention and keep their curiosity. It consists of loose clues and

information, which leads audiences to ask questions about a character or event they are unfamiliar with (Whitehead, 1992). They use "plot holes" to stimulate visitors to see more and find the relevance of the events. The *proairetic code*, also known as the "code of action" (Whitehead, 1992, p. 54), means action drives the story forward and gets the audience interested in guessing what will happen next. The *semic code* defines the secondary meaning of characters and events. It creates recognition/association for the audience, making fictional characters or events more believable if the audience can associate with the aspects of the real world. The *cultural or referential code* refers to well-known science or knowledge, and it is similar to the semic code. The *symbolic code* is the place for multivalence and reversibility. Hence, all of these codes have shown that the essence of narratology relates to the linguistic-semiotic theory. The process of narrative itself is a process of coding, which impacts the way people think, feel and interpret. The architect's discourse should be a process of decoding and encoding together. The architects need to interpret the core idea of the museum's narrative and then express it through architectural language, and this is called the narrative-oriented design.

3.1.2 Narrative and storytelling

Narrative means storytelling superficially, which belongs to a type of literature as an organised and plotted text. However, its deep structure can be explored through narratology. Narratology is a human discipline that focuses on studying the logic, principles and practices of narrative representation (Meister, 2011). "Narrative" is the basic concept of narratology. According to the Cambridge English Dictionary, the word "narrative" contains the following meanings in English[25]:

1. **A story or a description** of a series of events;
2. A particular way of explaining or understanding **events**;
3. **Telling a story** or describing a series of events.

[25] Meaning of *narrative* in English. Cambridge Dictionary. Available at: https://dictionary.cambridge.org/dictionary/english/narrative . Accessed Date: 25th Feb, 2020.

Merriam-Webster defines "narrative" as[26]:

1. Something that is narrated: **story**, account;
2. A way of presenting or understanding a situation or series of **events** that reflects and promotes a particular point of view or set of values;
3. The representation in art of an event or **story**;
4. The form of a **story** or representing a **story**;
5. It is relating to the process of **telling a story**.

Based on the dictionary, "narrative" can be a noun, a verb, or an adjective. Both interpretations relate to the element of the stories and events. Hence, the most basic understanding of narrative is storytelling. Tzvetan Todorov claims that there are two levels in a narrative text, which are *story* and *discourse*, which can be explained as something that happens, and this something is related in a certain way (Todorov and Weinstein, 1969, pp. 74-76). According to Todorov, the *story* consists of events that contain both active and passive actions, and existence refers to the characters and space. The *discourse* is the category that comprises various elements of transmission, which includes the plots, time, style and so on (Figure 3.1).

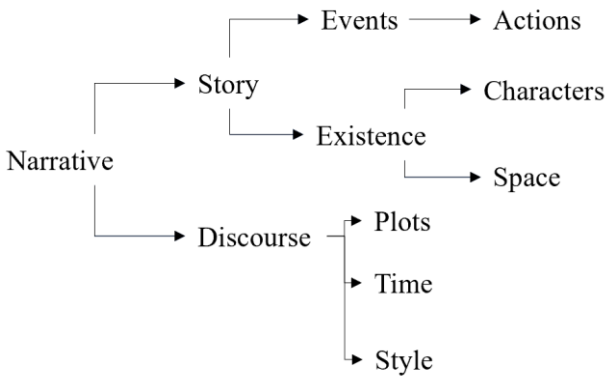


Figure 3.1 Consists of the narrative (drew by the author based on Todorov's opinion)

In other words, the narrative refers to expression content and expression form. It represents a series of events occurring in a specific time and space through a medium,

[26] Meaning of narrative in English. Merriam-Webster. Available at: https://www.merriam-webster.com/dictionary/narrative#other-words . Accessed Date: 10th Aug, 2020.

which is highly integrated with the exhibition in the museum. The narrative can become an attribute of the museums. The book *Museum Making Narratives, Architectures, Exhibitions* also states that narrative is a "common language" that links the architecture, museum exhibition, and visitor's experience (Macleod et al., 2012).

However, it is the exhibition structure and an approach to interpreting the building and its relationship to the multicultural world. The museum architecture takes into account visitor's individual experiences and the need to shape them into stories. As Nigel Coates (2012) said:

> Architecture starts and ends with how people interact first and foremost with their environment, and in the process of responding to it and yielding to it, map their experiences in a mental space that architects need to understand, and possibly make use of it. [27]

This study mainly aims to suggest Chinese architect's discourse first. One point needs to be noted that narrative is a little different between China and the West. In western countries, the dominators implement the "national identity" through social practices that allow local citizens to participate in a specific ideology and social role to obtain geographic or demographic support (Coffee, 2008, p. 265). So the beginning of the narrative is mysterious.

However, the novel's idea arose earlier in China, especially the Zhanghui novel, which became the representative genre (for example, the four great classics of China were all narrated in this style). The Ming Dynasty witnessed the transformation of Chinese literature from poetry to narrative. Similar to the spatial configuration of traditional Chinese architecture, the basic narrative structure of the Zhanghui novel consists of chapters with headings and episodic units (Yong, 2014). Therefore, the most prominent feature of the Chinese museum narrative is the temporality constructed through the spatial sequence based on the narrative tradition of Chinese literature. Besides, the narrative engages with the construction of symbolic order (Müller-Funk, 2012), which closely relates to time – the time of storytelling or events. Therefore, the chronological structure, which is the most common narrative structure in Chinese

[27] Neil Coates. Narrative Architecture. Chichester: Wiley. 2012, p. 11.

museums. Except for narrative structure, the form and content also influence the expression of narrative.

3.1.3 Discourse and story

In the book *Story and Discourse: Narrative structure in Fiction and Film*, Chatman (1980) pointed out a narrative contains two parts – story and discourse.

> A story (histoire), the content or chain of events (actions, happenings), plus what may be called the existents (characters, items of setting); and a discourse (discours), that is the expression, the means by which the content is communicated. [28]

The relationship between story and discourse shows the expression content of narrative and the expression form, respectively. Also, Chatman established a relationship between expression/content and substance/form based on linguistics and semiotics. Their relationships follow the rules of signifier/signified put forward by Saussure. Hence, the author recreated the relationship between discourse and story, as Figure 3.1 shows.

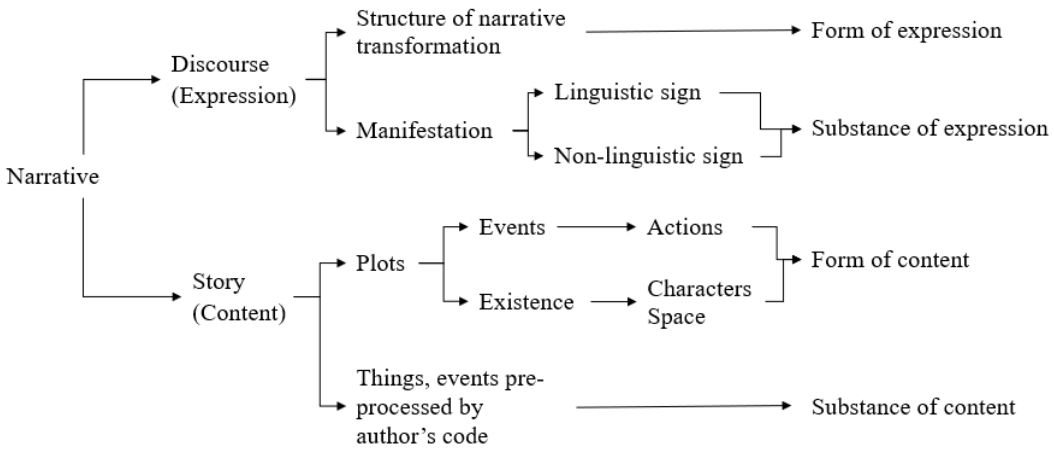


Figure 3.2 The discourse/story of the museum (source: Chatman, 1980, p.26)

[28] Seymour Chatman. Story and Discourse: Narrative structure in Fiction and Film. Cornell University Press. 1980, p. 19.

The story, discourse and manifestation proposed the foundation for applying narrative in architecture and museum exhibitions. The following sections will discuss the relationship between narrative & architecture, narrative & exhibition, respectively.

3.2 Narrative & architecture

3.2.1 The theory and practice of narrative in architectural design

Narrative application as a term in architecture has already been studied since the mid-1980s (Coates, 2012). Neil Coates, the British architect, established a research group of "Narrative Architecture Today (NATO)" to conduct interdisciplinary experiments between narrative and architecture, film and literature, as well as other fields (Coates, 2012). He then published a book, *Narrative Architecture*, to emphasise the relationship between architecture and narrative. This book is partly an attempt to explore the potential for narrative as a way of interpreting buildings but also signposts the way to architecture that is relevant to a multi-disciplinary. It starts and ends with how people interact first and foremost with their environment, and in the process of responding to it and yielding to it, map their experiences in a mental space that architects need to understand and possibly make use of. Within the framework of the unique spatial geometries, architects explore how narrative can engage with the medium of space. This theory provides a framework for how architecture can be invested with narrative to give it meaning based on experience. Therefore, narrative denotes cooperating with "human nature" (Coates, 2012, p. 10).

The narrative represents the architecture in different ways. From the architectural expression perspective, the narrative was treated as a representation that illustrates the design through drawings, models and other methods. It concerns the semantic meaning of buildings and the expression of cultural importance as well. On the other hand, the architecture expresses intentions and takes part in the construction of cultural meaning. The narratives can participate in the medium of space and form how architecture can be given cultural implications. Accordingly, several architects introduced narrative to their design. For example, Steven Holl believed that narrative is a process in which readers process the texts. In *Descriptive Narrative: the Experience of Architecture through Writing*, Benjamin Stinson emphasised adopting the writing process to think

about the design process to provide diversified narrative modes for visitor's perception (Stinson, 2004). According to Wang Shu, the winner of the Pritzker Prize 2012, architecture is a narrative. The building, including the surroundings of the building and its environment, become a "narrative of the natural form" (Rosenfield, 2011).

Similarly, Bernard Tschumi, who proposed the experience of space, also put forward architecture as a narrative when drawing an analogy between architecture and film. Hence, the visiting process is like entering a whole story. The visitors walk through each part of the building in an orderly fashion, like a sequence in a movie. All pieces together make up the story. Tschumi also claimed that narrative closely relates to visitors' movements influenced by rows of space. And the social and symbolic connotations and programmatic sequences are narrated through spatial sequences (Tschumi, 1994, pp. 154-155). His opinion between events, space and movement, can be expressed through the collaborative design of the Acropolis Museum (Athens), and it belongs to the archaeological site of the Acropolis of Athens.[29] This museum is separated into three independent spaces. The original historical site is at the bottom level, the friezes of Parthenon at the middle level, and the top-level, which contains a transparent corridor that wraps around the floor (Figure 3.3). It allows visitors to experience both the old and the new Parthenon context, as the whole museum is a transparent and luminous box.



Figure 3.3 The Acropolis Museum

(source from https://www.archdaily.com/61898/new-acropolis-museum-bernard-tschumi-architects)

The above example discussed the relationship between narrative and architecture through the association of spatial sequences. On the one side, the architects take the

[29] The new Acropolis Museum was designed by Bernard Tschumi and local Greek architect Michael Photiadis.

narrative concept to guide the circulation of visitor's movements. On the other side, it provides a clear spatial order for visitors to interpret. However, in addition to events, space and movements, there is an additional layer of cognition for museums. It will find that "narrative" is an attribute that architecture and exhibition can share and can be easily understood by multicultural visitors. It represents the communicative nature of architectural and exhibition discourse. Therefore, the author claims that the narrative-oriented museums of cross-culture and history improve visitors' cognition and resonance. At the same time, the metaphorical expression can provide a way to convey the abstract cultural connotations or the abstract narratives, which shows the symbiotic relationship between narrative and metaphor.

3.2.2 The relationship between metaphor and architectural narrative

In order to explore the relationship between metaphorical expression and architectural narrative, this section firstly discusses the definition of metaphor. Modern researchers have already extended the study of metaphor to various fields instead of the limitation of the rhetoric figure, including social science, cognitive science, and pragmatics. In the late 1990s, both cognitive and linguistic scholars believed that the cognitive and pragmatic relevance of any form of methods – such as metaphor, should be studied from a "situated framework" that directly impacts people's think and communicate through it (Caballero, 2006, pp. 5-6).

According to *the Cambridge Dictionary*, "metaphor" means:[30]

1. an expression, often found in literature, that describes a person or object by referring to something that is considered to have similar characteristics to that person or object.

2. an expression that describes a person or object by referring to something that is considered to possess similar characteristics.

[30] Meaning of Metaphor in English. Cambridge Dictionary. Available at: https://dictionary.cambridge.org/dictionary/english/metaphor. Accessed at: 25th Feb, 2020.

Merriam-Webster also defines the meaning of "metaphor" as: [31]

1. a figure of speech in which a word or phrase literally denoting one kind of object or idea is used in place of another to suggest a likeness or analogy between them (as in drowning in money); broadly: figurative language.

2. an object, activity, or idea treated as a metaphor.

The metaphor was treated as a figurative language to convey the similarity between different things from the linguistic perspective. For architects, metaphor is a way to express architectural form and meaning. As Caballero emphasised, metaphors "inform all the stages of designing a building as well as the language used to discuss it (with clients, colleagues, etc.) before, during and after its construction" (Caballero, 2014, p. 157). As the architectural design is a complex process, the influences of urban texture, which includes the urban morphology, climate, urban fabric and cultural context, are all essential elements that impact the meaning of the architectural expression. The metaphor focuses on studying aesthetic values and the connotations of architectural language from architectural manifestation. It is basically a study of visual and aesthetic effects controlled by an architect's discourse. Hence, it becomes a way to narrate the story of the design concept and convey architectural poetics, where metaphor is often used to stimulate the architect's creativity.

The metaphor has dominated the language of postmodern architecture against the international style of modernism. Contemporary architecture still exists in the context of the postmodern era. The building is facing the challenges of global style and cultural diversity. The current research of metaphorical expression is all about the contribution of metaphor to architect's thinking and concepts (Casakin, 2007; Fez-Barringten, 2012a; Rodríguez and Rosario, 2014; Casakin, 2019; Farquhar and Fitzpatrick, 2019). In fact, narrative and metaphor are binary concepts of expressing different cognitions of the world. There is a symbiotic relationship that metaphors can convey particular points in a narrative and connect unrelated narratives. As Fitzpatrick and Farquhar

[31] Meaning of Metaphor in English. Merriam-Webster. Available at: https://www.merriam-webster.com/dictionary/metaphor#learn-more. Accessed at: 25th Feb, 2020.

quoted in their book *Innovations in Narrative and Metaphor*, "metaphors are more than tropes of language; they have the power to re-describe the world" (Farquhar and Fitzpatrick, 2019, p. 6).

3.2.2.1 The rise of the metaphor in architectural design

Generally speaking, metaphor's application in the architectural practice is not new. It even started with the way humans lived in ancient times (Fez-Barringten, 2011). The representative architects are Robert Venturi, Michael Graves, Charles Jencks and James Stirling. Although modernist architecture did not advocate the metaphorical expression in its early stage, it still implies the relationship with industrialisation and mechanism. In other words, modernist architecture focused on practice and function, aiming to solve functional needs with science and technologies. According to this appeal, the architectural form was treated as an efficient machine. It conveys the functionality, logicality, and normalisation of architectural language. As Corbusier famous manifesto, "a house is a machine for living in" in the book *Towards a New Architecture*, Le Corbusier wrote:

> The Architect, by his arrangement of forms, realizes an order which is a pure creation of his spirit; by forms and shapes he affects our senses to an acute degree and provokes plastic emotions; by the relationships which he creates, he wakes profound echoes in us… he determines the various movements of our heart and of our understanding; it is then that we experience the sense of beauty. [32]

Although Le Corbusier never directly discussed the application of metaphors and symbolism, he implied the spiritual or emotional resonance caused by the architect's designed forms and shapes, which reflect our subconscious universe.

The metaphorical view of architecture and *allusionism* as a systematic theory was developed in the 1970s, based on semiotics. Robert Stern is the pioneer that introduced *contextualism, allusionism, and ornamentalism* into post-modern architecture (Bourassa, 1989, p. 300). Moreover, Charles Jencks also advocated metaphorical expression because of the shared characteristic between linguistic semiotics and

[32] Le Corbusier. *Towards A New Architecture*. Oxford: Architectural Press. 1989, p.1.

architectural language (Jencks, 1980). Postmodernist architects focused on the influences of local cultures, social backgrounds, and environments on architectural form, shape materials, and decorations. For example, decoration and metaphor have become the approaches to express the unique characteristics of architects' discourse, which is the opposite of modernism's internationalisation. It is the use of semiotics that treats architecture as a language, suggesting its connotations to people through formal symbolism. Allusionism focuses on cultural forms and emphasises the symbolic role of architectural language, which corresponds architectural forms and spaces to specific meanings. Metaphor, however, does not refer to symbolism in the broad sense of the word but rather to how architects use particular spatial discourse or references to historical fragments. It represents the relationship between architecture and traditional culture, between man and nature, and between history so that architecture can have a more profound and unseen meaning.

Robert Venturi is one of the representatives of classical metaphor, and he also focused on the decorative function of metaphor in architectural form. In his book, *Learning from Las Vegas*, he pointed out architectural symbols as *a duck* or a *decorated shed* to entertain the public (Venturi, 1977). In his other book, *Complexity and Contradiction in Architecture* (1966), he proposed the *gentle manifesto* against modernist architectural language (Howe, 2016). Unlike the minimalism of modernist architecture, Venturi introduced combining the American style with the Italian classicism of the Renaissance and Baroque, which influences post-modern architects, such as Michael Graves. It is not a reproduction of classical architectural language but a change and transformation of classicism to make the building familiar and highly communicative with its society. According to Howe's quotation from Venturi, "tradition cannot be inherited, and if you want it, you must obtain it by great labour" (Howe, 2016, pp. 493-494). The *Vanna Venturi House (known as Mother's House)*, for example, is the representative work of Venturi at the beginning of postmodernism. Although the design used ribbon windows to show a simple façade, he also applied the decorative lines and pediments commonly used in classical architecture (Figure 3.4). However, his standpoint against architects' will express their abstract concepts and values from the aesthetic aspect due to over-materialisation. Hence, the metaphorical expression is still treated to represent abstract symbols most of the time.



Figure 3.4 The Vanna Venturi House (source from Wikimedia Commons)

Michael Graves, the American architect, compared architectural language to literature, which is divided into *standard* and *poetic usages* (Graves, 1982, p. 86). The primary architectural languages influenced by a practical, reliable, and solid structure, technical equipment, and other factors are equal to the *standard usage*. In contrast, *poetic language* refers to architectural and spatial values influenced by social, cultural, and regional factors. If an architect is once aware of and responsive to the possible cultural influences on the building, society's ritual pattern should be registered in the architecture. Hence, he treated metaphor as an ornament that responds to the nature of architectural language.

One of Graves architecturally groundbreaking projects, the *Portland building*, Oregon, is representative of postmodern architecture. The building implied the traditional historical streets in Portland, Oregon (Figure 3.5). The metaphorical thought came from the surrounding social background—the newest buildings constructed in Portland were modernist. The purpose of this building is to stimulate people to rethink the influences of traditional architectural language on Portland's urban fabric. It applied highly classical elements, such as columns, pediments, frieze, and small square windows. Graves expressed his idea of classical orders through the base, body, and head of the building's façade.

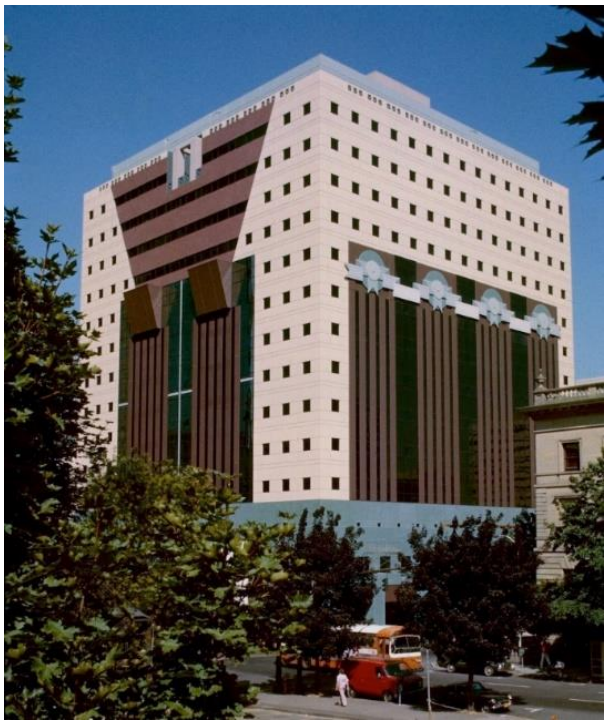


Figure 3.5 The Portland Building by Steve Morgan (Morgan, 1982)

According to the discussion above, metaphorical expression can be divided into *image symbols* and *conceptual connotations* based on visual and non-visual languages. The former makes it indeed more accessible for the audience to perceive the symbolic image. However, the visual image metaphor may stay at the skin of architecture (superficial layer). It is led to describe the building as "looks like" by the general public. For example, the CCTV headquarters in Beijing is known as "big boxer shorts" (大裤衩). In contrast, the conceptual expression focuses on mapping the intangible concepts to entities. For example, "A house is a machine for living in" was proposed by Le Corbusier. The definition represents his interpretation of residential buildings through his language, which is functional, logical, and normative. Both of them can be related to the "narrative".

3.2.2.2 The metaphor and its expression

Before discussing the gap of architectural expression between the museum building and its content, it will be necessary to examine the mainstream application of metaphorical expression from *image and non-image symbols*. The image symbol came from the analogy between two concepts. It usually contains two referents that have similarities that can establish a connection by visual language. In other words, the

whole or the partial form of the building is a metaphor for a specific thing. It is generally manifested based on the similarity between the building (or part of the building) and the symbolic thing. This metaphor is similar to a simile, but it is not as straightforward as a simile. Instead, architectural language is used to highly abstract the metaphorical object's features and expressed through architectural language. The cognition of such an architectural metaphor is not unique, like similes. Viewers may have different understandings of the symbolic objects within the scope of likeness due to their different personal experiences.

There are mainly three aspects to convey metaphor production based on image symbols:

- The architectural form
- The structural form
- The constituent elements

Firstly, the architectural form is influenced by various factors related to social, cultural, political, and natural environments. The contextual elements are the foundation for architectural expression. Because a building is attached to its surroundings, the architects always investigate and analyse contexts from various perspectives and reflect them through their design work. A well-known example is the Sydney Opera House, which is located next to Sydney Harbour. It creates an ideal background for building interpretation—known as *a white sailboat*. Hence, metaphor becomes the way architects tell about architectural form. And metaphor is not only an image symbol similar to pictographic characters but also contains cultural significance (signified), which cannot be separated from its context.

Secondly, the structural form usually limits the architectural expression, especially for those public buildings that are structurally demanding. It is difficult for architects to consider its overall shape as the noumenon of metaphor. However, the central part of the Lyon St. Exupery Airport, designed by Santiago Calatrava, a Spanish architect and structural engineer, is shaped like a huge bird with its wings outstretched (Figure 3.6).



Figure 3.6 The Lyon St. Exupery Airport designed by Santiago Calatrava (source from calatrava.com)

The last aspect is the constituent elements, especially classical elements that symbolise man's relationship with nature and god when theocracy and imperial power flourished. For example, the pyramids in ancient Rome symbolised nature and the gods; the ancient Greek pillars represent the worship of the human body; the vertical spire of a Gothic church is a shrine to the gods. Similar to western countries, classical factors are still applied in Chinese architecture, for example, the famous bucket arch. These elements are still abstracted into different architectural languages to convey reflections on history and cultures. Modernist architecture treats metaphor as a product of the symbol system. An architectural design was regarded as visual or image thinking, and its creation focuses on the surface of the building. Therefore, metaphor is defined as a decorative function as the rhetoric to literature.

Another type is motif metaphor, which came from narrative theory. It refers to the recurring and symbolic elements in a story to enhance the theme and emotion. The motif refers to the repeated use of a specific theme in architectural design, including architectural components, architectural forms, sculptures, decorations, or other architectural elements. When the theme is identified, it will be no deformation or abstraction. The repeated emergence of "motifs" is a way for architects to emphasise their personal experience or emotion, showing the architect's unique architectural, philosophical vision and distinctive personality. For example, the classical elements' utilisation connects the architectural entities and past prototypes. The introduction of "motifs" has been injected into the more subjective consciousness of architects, and the symbolic meaning is confusing. There may be an inconsistency between the audience and the designer in their cognition of the metaphorical sense. It requires the audience to have a professional awareness of the various themes to some extent.

Unlike image symbols, contemporary architecture focuses more on self-expression through implicit metaphor between structure and form, building technologies, and the macro-social context. Hence, creating a design concept results from a process of metaphorical reasoning, and the metaphor becomes a design *trigger* or *primary generator* (Caballero, 2006, p. 23). It was claimed that architectural design is an analogical process in its early stages, which draws upon conceptual similarities as the design generator. For example, there was an analogy between architectural proportions and human bodies. It can be traced back to Vitruvius's *De Architectura*, which proposed a man as a measure of all things (Vitruvius, 1912). Rosario Caballero also argued this point in his book; the buildings organised as "disparate elements" are similar to the organs or limbs of animals and plants (Caballero, 2006). It established the relationship between organs and architectural structures based on functional identity. According to Gentner's Structure-mapping theory, the metaphor "convey[s] that a system of relations holding among the base object also holds among the target object, regardless of whether or not the objects themselves are intrinsically similar" (Gentner et al., 2001, p. 200).

Therefore, the architects use the architectural form to metaphor abstract concepts, such as emotions or atmosphere. It is a way to evoke a particular emotional response in the audience to achieve spiritual resonance. The non-image metaphor uses the tangible object to metaphor the intangible concept. Due to the viewers' different personal experiences, their emotional reactions are also different. For example, the Jewish Museum, designed by Daniel Libeskind, evokes the audience's empathy with the Holocaust through a series of architectural spaces. Following the guidance of the route deliberately arranged by the designer, the viewer can realise the metaphor under the stimulation of spatial sequence, combined with light, colour, sculpture, text description, and other methods. The cognition of such a metaphor has specific requirements on the viewers' cultural background and personal experience. Only the viewers with the corresponding cultural background can complete the comprehension of metaphor.

The classification of metaphorical expression and its impacts on visitors can be summarised in the following table:

Table 3.1 The classification of metaphorical expression (source: author)

Metaphorical approaches	Types	Characteristics	Impacts on visitors	Cases
Image symbol	Classical elements	Concrete or abstract utilization of classical symbol as the architectural language to reflect the historical context	Historical, cultural identity but difficult to resonate because of lack of understanding of its cultural backgrounds	The Britsh Museum
	Modern elements	Symbol of similarity	It is direct and easy to understand	Venturi's Duck house; Sydney Opera House
Non-image symbol	Abstract expression	Physical elements of space such as light, material symbolise abstract specific spirit or emotion	Difficult to recognise differences because of the subjectivity of the architect's discourse	Jewish Museum, Berlin, Guggenheim, Bilbao
	Narrative-oriented (assumption in this study)	Storytelling or narrative attributes of historical or cultural context consist of various objects	Various interpretations due to different cultural backgrounds and pre-knowledge	Mary Rose Museum, Portsmouth, UK

Comparing these two metaphorical approaches, it is clear that metaphorical thinking can express the meaning of architectural language. First of all, it is a generator for a design that inspires the architect's creation. Moreover, it is a way for users to understand the building according to their pre-knowledge. However, the application of metaphor from image symbols has the problem of superficiality that focuses on the analogy of image symbols rather than the expression of deeper layer connotations. The metaphorical concepts are interpreted as visually analogical or symbolic by the audiences rather than cognitive. The potentials of the metaphor of museum architecture are much more than analogy or symbolism.

3.2.2.3 The metaphor of museum building and its application

According to the *Key Concepts of Museology*, the focus of museum architecture has always been on functional requirements:

> Museum architecture is defined as the art of designing and installing or building a space that will be used to house specific museum functions, more particularly

> the functions of exhibition and display, preventive and remedial active conservation, study, management, and receiving visitors.[33]

The development of the museum is a complex process. On the one hand, museums have continually changed according to their audiences' demands, the museum's orientation, and the nature of the collections. On the other hand, the changes in architectural styles and thoughts have greatly influenced the form and expression of museums. From the sacred temple to the storehouse of the treasury, from a repository of precedent to the cabinet of curiosity, and from a civilising institution to a public and community space, in each stage, the museum changes, including its shape, its display technologies, its function, and its appeal. The museum is not static—it is continuously adapting to the social context (Richman-Abdou, 2018). According to Fors, the relationship between museum and society,

> is considered as one of the fundamental components in museum practice because the attempts of people to shape museums and the effects of a constantly changing museum context ensure that the museum remains in flux.[34]

The museum architecture itself has represented the history of the museum. In the Middle Ages, cathedrals collected precious objects and religious relics. During the Renaissance, various collections, such as minerals, music instruments, and paintings, were randomly displayed in the cabinets of curiosities. Similar to their origins, museums still are reflections of beliefs and philosophical thinking.[35]

In museum studies, the metaphorical expression of the museums is not new. It can help identify the museums' social meaning and inspire new ideas. Stephen E. Weil regarded metaphor as an approach to museums' communication strategy (Weil, 2012). In

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33 See in Reference: André Desvallées and François Mairesse (Eds.). Key Concepts of Museology. 2010. Available at https://evmuseography.wordpress.com/2015/02/16/museum-the-architecture-concept/. Accessed date: 27th Jul, 2020.

34 Vaike Fors. The Empty Meeting-place – Museum Metaphors And Their Implication For Learning. *Designs For Learning.* 2012(5), pp.130-145.

35 Stephanie S. Rotem. Constructing Memory: Architectural Narratives of Holocaust Museums. New York: Peter Lang. 2013, p.13.

Michael D. Levin's book, *The Modern Museum – Temple or Showroom*, he argued the museum building is overlooked. Michael D. Levin also proposed the museums as "temples" and "showrooms" based on different social contexts (Levin, 1983). Hereinto, the temple type represents the architects' desire to enshrine art. For example, the Guggenheim Museum in New York (1959) has been described as a temple on the avenue by Frank Lloyd Wright himself (Levin, 1983, p. 33). It pays attention to the function of the tremendous spiral ramp. The galleries hover up with the ramp to enhance visual communication. Indeed, the museum building itself has the temple's colour under the shell of modern language. The winding ramp guides visitors close to the sky. Modern museums are associated with the ancient human history of the collection of treasures and preservation of cultures. Compared with the temple, the showroom type refers to the audience appeal. The museum is designed as a "shop-like space" with a curtain wall (Levin, 1983, p. 35).

Likewise, Cameron Duncan also pointed out the museum as the temple, forum, or palace to explore the role of museums for the public (Duncan, 1995). Macleod also referred to the museum as a monument and an instrument in her book (Macleod, 2013). James Clifford defined the museum as a "contact zone" to illustrate the relationship between indigenous cultures and other cultures (Clifford, 1997). Following the economic changes in society, Roberts (1997) introduced the museum as a marketplace instead of a library or temple. A new cognition today is the idea of the museum as a platform (Fors, 2012).

Therefore, the museum metaphor not only interacts with the form of the museum building but also represents the social identity and cultural value of a museum. The cross-cultural historical museums in the context of B&R, as the container of cultural convergence, are the cross-cultural "contact zone." However, the expression of the museum building is more than literal; it includes the physical architectural language. In order to identify the research gap, this section focuses on the museum's development from its origins. It shows the museum's changes in its social context and its gap with the narrative inside.

3.2.3 The gap from an architectural perspective

As metaphor is treated as a communicative tool for architect's discourse, different scholars have conducted in-depth studies on applying metaphor in architectural design. As the author mentioned at the beginning of this section, most studies focused on the contributions of metaphor to architect's creative thinking (Casakin, 2006; Casakin, 2007; Rodríguez and Rosario, 2014; khakzand and Azimi, 2015; Casakin, 2019). These studies are all about applying metaphor in architectural discourse, emphasising the innovative role for creating the design concept. It strengthened the view that architects can introduce concepts from other fields or domains for their specific expression. The most metaphorical theory argued that metaphor is the *rhetoric* that can express symbolic meaning through the embodiment of architectural language in architectural form. Thus, the current study treats metaphor approaches as the figurative language from the aesthetic perspective and focuses on the symbolic function of architecture and its role in a social context from the macroscopic view.

In this section, the author adopted three cases to examine the gap between architectural expression and narrative. The first is the actual project that the author was involved in during the work period (2015). The second is a pair of museums designed by I.M Pei. The last one compares the contemporary museum in Ningxia province and the Wood Museum.

Based on the work experience in an architectural design institution, the author felt a series of the design processes for the museum, which focuses on the organisation of spatial layouts and architectural form rather than carry the meaning of museum contents. Taking the Suining Planning Museum as an example, the author participated in the design process of bidding. The museum was located in Suining, Sichuan Province, known as the hometown of Guan Yin.[36] Hence, the creative concept of architecture came from the lotus – the throne of Guan Yin (Figure 3.7).

[36] In Chinese Buddhism, Guan Yin is the goddess of Mercy.



Figure 3.7 The generation of the architectural form of the Suining planning Museum (source: author)

With the generation of this concept, the focus began on the functional arrangements and circulations of space. During one or two months of preparation, the architect team need to show the outcome through sufficient high quality, including the plan/section, the architectural manifestation, rendering image, and materials (Figure 3.8). The plan of each layer was developed based on the functional bubble diagram and the streamline of different groups (such as visitors, staff, and transport). Moreover, the interior space mainly emphasised the introduction of material and natural light except for functional requirements. Hence, although the building expressed the value of local culture, the metaphorical expression, such as Guan Yin's lotus, barely supports the narrative inside.

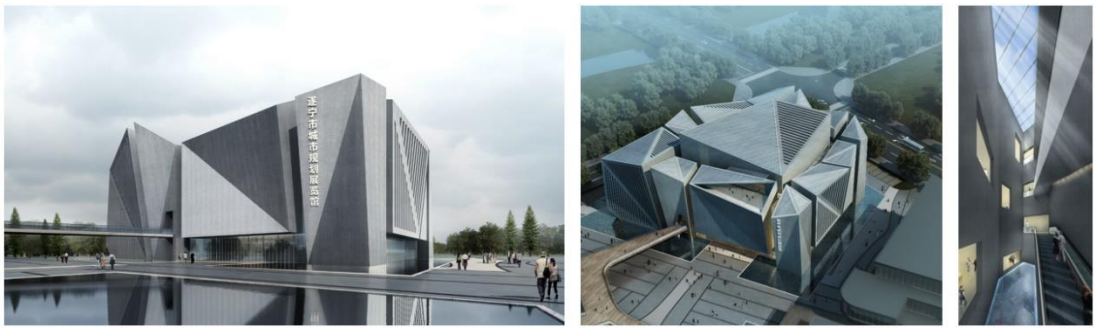


Figure 3.8 The architectural form and presentation (source: author)

Museum architecture has a requirement to become a cultural iconic. It is still widely accepted that architects should design a new iconic cultural building by governments and authorities worldwide (Macleod, 2013). Because of its strong cultural connotation, the museum is a welcome project for architects, who can not only create a historic building for the urban context but also leave their mark in architectural history. Hence, the architect's discourse for museum design can be treated as the architect's narration. However, it may arouse the phenomenon that the relationship between museum content and its building is not unique. For example, this Suining Planning Museum can also become another theme, such as an art gallery, as it meets the basic functional requirements and shows the city's cultural value.

As discussed above, the architectural form can express various aspects, including the cultural concept, the theme, the function and atmosphere of space, and the relationship

to its surroundings. The metaphor of the architectural form can tell different stories. The stories, in some cases, cater to the tastes of the government. Moreover, museum architecture usually contains a vital cultural attribute, and cultural images can be attached to the architectural form through an abstract narrative. As Sirefman (1999) and Paul&Suzanne (2017) claimed, the same museum architecture as any other buildings is undoubtedly a social product and cannot be divorced from its cultural and social context (Sirefman, 1999; Paul and Suzanne, 2017). On the one side, the museum's architectural design usually begins with a series of site analyses and its influences on surrounding environments. On the other side, the architects understand cultural, aesthetic, and material aspects during their creation. As Fez-Barringten quoted Paul Weiss (1971):

> There is first the past of the architect himself, his or her background, training, experience and knowledge. There is also the whole history of the subject, for the architect, like every other artist, is brought up in the world of his art. Traditional or classical (non-primitive) art is based on what has gone before. Indeed, the most revolutionary changes are produced by men and women, who have a good acquaintance with the past, and want to avoid its limitations.[37]

Except for the architect's interpretation and expression, the metaphor aligns with how the museum can adapt to the multicultural social context. However, conceptual thinking may be weaker during this process compared to the aesthetic and value via metaphorical expression. The Suzhou Museum and Museum of Islamic Art designed by I.M Pei are a pair of examples to examine museums within different cultural backgrounds (Figure 3.9). He said the duty of the museum has changed from a collection space to a gathering place. Public communication has become the trend of the modern museum.

[37] Barie Fez-barringten. An architectural history of metaphors. AI&Society. 2011(26), pp.103-111.

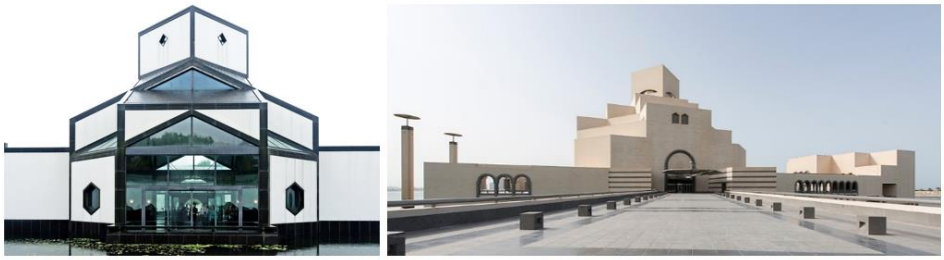


Figure 3.9 Suzhou Museum[38] and Museum of Islamic Art, Doha [39]

Both museums were designed in I.M Pei's architectural language (Figure 3.10). The distinctions between these two museums are expressed through the unit's combination, materials, and decorations. The metaphor of the Suzhou Museum is derived from a Chinese classical garden, and its symmetrical layout responds to the surroundings. The Museum of Islamic Art expresses the Islamic identity through the symbol of a traditional mosque.

Moreover, these two museums are designed from an outside social context and their identities in the regional area. When the author visited the Suzhou Museum, it is easier to be attracted by the delicate details and the building's geometric shapes of the museum's contents instead of its display inside.

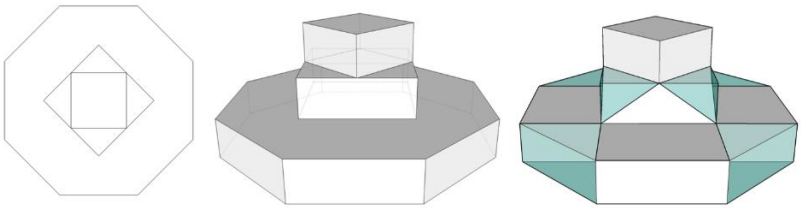


Figure 3.10 The diagram of the basic language unit of I.M Pei (source: author)

Because the museum and other cultural facilities are the most crucial part of identity and brand as a unique signature, each city wants to build a more monumental, iconic building by internationally famous architects. However, it has also been an era to

[38] Suzhou Museum/I.M. Pei + Pei Partnership Architects. Available at: https://www.archdaily.com/894202/ad-classics-suzhou-museum-im-pei-plus-pei-partnership-architects. Accessed date: 5th Oct, 2019.

[39] Wahyu Pratomo & Kris Provoost. Why IM Pei's Museum of Islamic Art is the perfect building to suit Doha's style? Available at: https://www.archdaily.com/867307/why-im-peis-museum-of-islamic-art-is-the-perfect-building-to-suit-dohas-style. Accessed date: 5th Oct, 2019.

reform the museum's design and expression, in case the "empty ghost museums" appeared (Shepard, 2019). This issue is obviously expressed in China, especially in museums in Western China.

For example, the Yinchuan Museum of Contemporary Art is designed by Chinese architects (waa). According to the museum's website, there are only two permanent exhibitions in the entire museum from its opening (2015) – *Accommodation of Vision – Early Chinese Western-style Paintings*, and *The Outline of Territory – Historical Map Collections*. Compared with the building itself, the contents of the exhibition seem insignificant (Figure 3.11).



Figure 3.11 Yinchuan Museum of Contemporary Art (source from moca-yinchuan.com)

The museum is located in Ningxia Province in western China, near the Yellow River and a node on the Silk Road. The whole building was inspired by the folds of rocks formed by the Yellow River over thousands of years. The most striking part is the façade, using the parameterised method to simulate the creases and textures of the rocks. In fact, the Yellow River runs through the west to the east of China, such as Shanxi, Gansu, and Qinghai all have the same landscape along the banks of the Yellow River. Hence, this story can be used in any area. Also, ignoring the museum's signified meaning and urban fabric, the museum seems to resemble Zaha's style. We cannot directly comment on the aesthetic value of the museum building, but from the stand view of the content that museums are carrying, there seems to be no connection between them.

Another example is the China Wood Museum, designed by MAD, the architect who designed the Monroe building (Figure 3.12). Its concept came from a natural form of wood carving. Regardless of the site of these two museums, their architectural discourse is similar. Also, when we are talking about how museum buildings have their characteristics, it is always related to the regional and cultural symbols used in the skin

design of buildings or the overall image design. The self-expression of architecture performs an independent discourse according to a specific theme, and it only provides necessary space for exhibition, which is wrapped in the skin. The organisation and order of exhibits can only realise the narrative display. That is to say, most of the researches in China that involve architectural narrative in architectural design practice are literal references to the word “narrative”, and there are several gaps between architectural practice and theory.



Figure 3.12 China Wood Museum (source from archdaily.com)

Although the cultural identity and meaning of architecture cannot be separated from its exterior context or urban fabric, the museum building still needs to serve the content inside. Therefore, the core of the museum narrative inside is another influential factor for metaphorical expression. Comparing to the expression of architectural form, the metaphor of museum architecture is also influenced and can reflect via the meaning of objects narrative (narrative-oriented metaphor). The objects and their meanings are the core of the museum (Hooper-Greenhill, 2000). The metaphorical expression of architectural language should not be limited to architectural form or creating a shape symbol. It is also a way to convey information to visitors and strengthen their cognition. The metaphor has evolved beyond decorative symbols.

The metaphor here is not a symbolic (rhetorical metaphor) analogy based on the visual image that can be described with “like”. It is an approach constructed on conceptual metaphor and related to the object’s narrative structure to explore how to communicate with visitors via architectural discourse. A museum is a place for telling history. The relationship between architectural language and museum content is the essence of museology and architecture. Contemporary architecture is mainly influenced by western modernism and postmodernism. These styles may lead to architectural form and function similarity because the museum is more comfortable processed into simple symbolic images or icons for public acceptance. However, the content of the interior museum is different across museums, which can form unique expressions.

3.3 Narrative & museum studies

Museums are ideal places to tell stories to stimulate visitor's visual and audio perceptions. In terms of narrative in museum space, it is understood various according to different designers. For museum specialists, the narrative is a way of transmitting knowledge to the general public. Therefore, they value the interest and accuracy of the narrative text. For those curators in design companies, they focus on the narrative forms, orders, display methods and public engagements of museum space. The narrative of the museum represents two levels – the text narrative and the spatial narrative. According to the narrative theory, the narrative exhibition includes the discourse and story.

3.3.1 Narrative form (discourse) and content (story)

Traditionally, the discourse and story are directly related to the text narrative. However, spatial narrative requires the use of display and spatial language to bring out the story of the text visually (Figure 3.13).

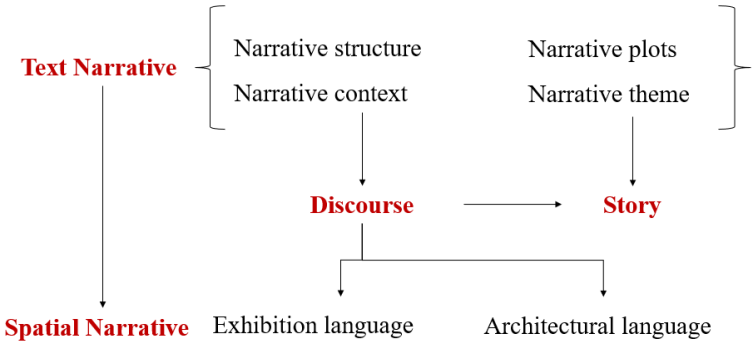


Figure 3.13 the relationship between text and spatial narrative (source: author)

From the museology perspective, Psarra (2009) discussed the relationship among the spatial organisation, exhibition strategy and visitor's experience. She analysed the examples of museums by reading at the cultural and historical levels and then analysing the architectural spatial configuration after fully mastering the museum's narrative theme and structure. Also, the book *Museum making: narrative, architectures and exhibitions* discussed the various aspects of narrative applied and expressed beyond the definition of museums, such as arts, landscape and multi-media. The narrative application in museum studies is closer to the original appearance of

literary narratology. It focuses on the time, plots and display sequence from classical narratology. But those studies do not systematically analyse the relationships between the discourse of architecture and objects driven by narrative-oriented expression. Most of them emphasise the diverse ways in which visitors encounter the displays and how the spatial layouts organise the exhibition, with little focus on the importance of how the object's narrative influences the meaning of the architect's discourse. The author believed if architects want visitors to feel the cultural value of the museum, they should first create a perceptible context for them. The architectural space of the museum provides the context and container of the narrative.

3.3.2 The spatial configuration of the narrative – space syntax

The spatialization of text narrative is usually evaluated by space syntax. It analyses visitor's visibilities and permeabilities. Space syntax is a technical analysis rather than a literary interpretation from the discourse and story aspects. Here is a brief introduction to space syntax. Bill Hillier (1937-2019), a professor of Bartlett School of Architecture, UCL, has introduced space syntax in the 1970s. According to the *Social Logic of Space*, Bill Hiller and Julienne Hanson explored the relationship between spatial function and social meaning. The social significance of its environment is expressed through the spatial organisation. They claimed that human activities and relations are ordered through ordering space (Hillier, 1984, p. 2). Based on this hypothesis, Hillier reinforced his opinion in the book *Space is the Machine* to show the framework's development.

Space syntax is defined as a tool to analyse the spatial configuration from a quantitative perspective. It helps designers to quantify the logic from the space layout of a building to the urban environments in a systematic way. From the view of urban planning, it helps to convey the social order. For example, the location of a museum is closely related to its urban fabric and social structure. From the standpoint of museum design, space syntax contributes to quantifying visitor's movements for designers to predict visitor's distribution in the museum. In other words, space syntax defines spaces through their relationships with others and then ordering people's relations. It is pure rational research of museum building's narrative from an architectural perspective, which also establish a connection between spatial layouts and exhibition.

3.3.3 The gap of narrative, museum architecture and exhibition

Based on the previous points, there is a contradiction between curators and architects, museum architecture and exhibition. It comes from the redesign process of the museum space. The architects take responsibility for designing the museum architecture, while the curators need to fill with the content. This issue refers to the interdisciplinarity between architecture and museum studies. From an architectural perspective, the architecture represents an image of the urban context. So the architects emphasise the relationship between the building and the surrounding environments. From the museum studies, the spatial arrangements also influence visitor's learning and experience. Therefore, space is the unified part between exhibition and architectural language (Figure 3.14).

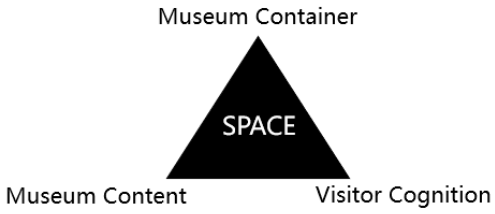


Figure 3.14 The museum building, museum content and visitor"s cognition (source: author)

Furthermore, under the museum's influences in western countries, the museums in China still need to face some pressing problems, as do Chinese architects. The architect's discourse for the cultural-historical museum along the B&R, in particular, has its specific requirements:

a) Cultural distance. The social context has significant influences on the architectural language. The cultural distance not only refers to the different cultural backgrounds but also emphasises the architect's discourse. The museum's primary role is to explore an effective communication method. In other words, if the designers impose their intentions and values on the audiences, it may cause cultural conflicts. Therefore, this study suggests a narrative-oriented design as a communication and cognitive approach. The narrative-oriented design has three objectives:

    1. To enhance the importance of architect's discourse to visitor's interpretation;

2. To emphasize different core ideas of museum narrative to show the connections and differences between different cultures;

3. To show the narrative context consists of architectural and object's narrative together.

b) Discourse and story of narrative. As mentioned, the Chinese architects adapted to designing a museum in a chronological narrative structure. Architects spent more experience highlighting the social-cultural value or spirit through architectural form, relationship with the surrounding environment, and spatial layouts. But according to narrative theory, the narrative structure is multiple. Accordingly, the architectural form and the architectural language should be consistent with the narrative structure. If not, it may arouse homogenisation of museums because Chinese collections contain a large number of porcelain, jade, and paintings from different dynasties. For the visitors who did not become familiar with Chinese history, the display is difficult to arouse any resonance. Therefore, the relationship between exhibition and architecture is not just a spatial sequence, but also the cultural connotations of cross-cultural imposed by the interaction.

c) Multiple participants. Unlike other public buildings, museum design needs to cooperate with other professionals, such as curators and professions. Moreover, except for the designers, the visitors also become inseparable parts engaged with the museum. The visitors from different cultural backgrounds have their pre-knowledge. Their interpretations of museum content are based on previous experience as humans are accustomed to using the familiar to understand the unfamiliar. The architects can use this cognitive nature to create a narrative context that improves visitor's perception and stimulates their different cognitions.

d) Narrative context. The Jewish Museum in Berlin is an event building to explain the narrative context. The Holocaust museums were the beginning of the introduction of narrative into museum exhibitions. The spatial language metaphorises the incomplete musical chapter – Arnold Schonberg's Moses and Aron. Daniel Libeskind was inspired by this Jewish musician's story, who was expelled from Europe during the 1930s (Guardian, 2007). The architect has transformed this incompleteness into a tight space by dividing the building structure. Therefore,

space becomes the most crucial element in the whole theme. This metaphorical expression of spatial language makes Libeskind's design similar to the text, which can interpret this history through the narrative context created through spatial language.

In a broader sense, the macros-perspective context can refer to the urban fabric, social-political environment, and other factors that influence the form and function of the building itself. Museums are designed with two requirements: firstly, to meet the functional needs and spatial configuration; secondly, the building itself can become a landmark that echoes with the surrounding context. However, as the museum is the carrier of various objects and cultures, the architects should consider the relationship between the building and the theme of museum content, which forms a narrative context. The narrative context refers to a specific environment where architectural language is expressed, defined as a micros-perspective. The macros context restricts the narrative context, and the narrative context also has its relative independence. In any case, the meaning of architectural language can only be conveyed through a specific context. It means the metaphor cannot be separated from the context. However, architects pay more attention to the external context rather than the inside narrative context. The gap exists between the architectural language and the object's display inside, referring to the contradiction between museum architecture and museology.

According to Suzanne Macleod in the book *Museum Architecture: A New Biography*, the creating of the physical building of the museum remains a little analysed subject, and there is scant debate on the "the nature of museum architecture or its role in the production of social relations and identities" (Macleod, 2013, pp. 24-25). Macleod provides her opinion that the museum is not only a product of architects but also a place that is influenced by the visitor's behaviours and cognitions from the view of museum studies. She has considered some issues about museums since the twentieth century. The functional and aesthetic considerations, the relationship between container and content are always the primary demands of museum architecture. According to Macleod:

> The complex relationship of content and container played out in the dialogue between functional and aesthetic considerations that are crucial to an understanding of museum architecture.[40]

The study of museum architecture should consider its context and influences rather than its physical shape and form. Hopper-Greenhill also holds the opinion that the physical environment of the museum building has been overlooked. Museum studies always focus on objects and organisations in museum space and visitor's engagements (Hooper-Greenhill, 1990). Hence, it is crucial to find an approach to balance the museum architecture and objects' display, as well as the architect's discourse and visitor's experience.

Indeed, the architectural language of museums in the context of the B&R needs to be rethought due to existing challenges, especially cultural distance and ideological differences. For the architects from different cultural backgrounds, the museum in the context of the B&R is not only a container to show the creation of their own experience and imagination. The museum design should be more responsive to visitors' needs to generate their event space instead of standard functional requirements. Following the introduction of shops, cafes, libraries, theatres and other public areas, the museums can be a cultural institute, a community centre, or a cross-cultural hub instead of simply a place for display.

3.4 Summary

Unlike other public architectural types, museum architecture is the carrier of cultures. Although contemporary architecture is developing in a world with globalization, the architecture, especially museums, still represent their cultures, countries, even different political views. The cultural-historical museums along the Silk Roads can carry and convey a voice of shared memories and futures. Each country and its cultures are continually integrating other cultures in their development. But at the same time, each culture should maintain its independence. Therefore, this kind of independence, which integrates with the heart of each museum's exhibition, represents the culture's

[40] Suzanne macleod. Museum architecture: A New Biography. Abingdon : Routledge. 2013, p. 3.

individuality and distinguishing features from other cultures. Regardless of the extent of economic globalization and the expansion of international metropolises, we cannot ignore the significance of museum buildings for cultural dissemination and communication through architect's discourse.

The research of the relationships between narrative and architecture can be reviewed from three aspects (Figure 3.15), which are theory, practice and analytical research through space syntax. When the narrative is applied for museum studies, it refers to the original appearance of literary narratology, which focuses on the time, plots and display sequence.

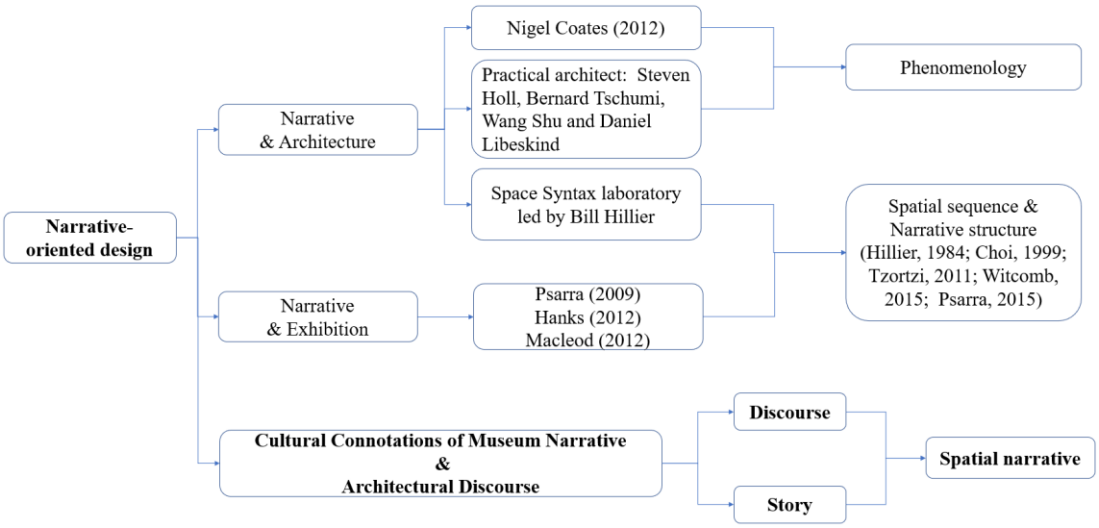


Figure 3.15 The researches between narrative, architecture and exhibition (source: author)

This study claimed the spatial narrative from the perspective of museum narrative and architectural discourse. For the museums within the B&R, the museum's core is the content, and communicating with the public is essential. It is important to note here that the research does not disprove those already widely accepted museums. Although the design work of a building reflects the architect's independent aesthetic preference based on satisfying the functional requirements, the issues still existed:

- How does architectural language integrate with narrative?
- How does architectural language influence visitor's cognition from a cognition perspective?

From a micro-perspective, the building itself will become part of the narrative of museum content, to enhance its communicative power from the inside out; architecture

is more than just the container of exhibits. Apart from utilising a museum, architects express their values or ideas through their discourse, hoping that the audience can interpret their ideas. In this case, the museum is not only a container for exhibits but a place for the communication of ideas. The traditional identity of the museum, either temple, library, or forum, implied the authority of museums. Visitors have passively received the information conveyed by the museum. As Bennett said, the museum's role is "civilising the public" for educational purposes (Bennett, 1995). Unlike museums as temples, libraries, or showrooms, the cultural-historical museums along the B&R are cultural hubs and a place for cultural convergence. Hence, the museums have the responsibility for connection except for education. The museums in the B&R context link both objects from various cultures and people from different cultural groups.

Metaphor has been put forward as an approach to enhance museum's communication. Based on the above discussions of metaphor in architectural design, there are the following statements to emphasise the term "metaphor" in this research:

1. The metaphor in this study relates to the *signified* or the narrative connotation meanings of the architectural language of museum space rather than a symbolic meaning of architectural manifestation.
2. The metaphor here communicates and conveys specific social-cultural values based on the object's narratives, contributing to establishing a narrative context for communication with visitors from different cultural backgrounds.
3. The metaphorical expression of museum narrative created by architects can become a mediation between the museum and visitors. It means that the metaphorical expression of the museum building not only adapts to its external symbol-image but also blends in its spatial language inside the museum, which is called the narrative-oriented metaphor.
4. The narrative-oriented metaphor provides an approach to conceptual cognition for visitors from different cultural backgrounds (see visitor's accessibilities in section 5.3.3).

In short, the primary research main object is the narrative-oriented *metaphor*. Firstly, the encoding of the architectural language integrated with objects and information

represents its ability to fuse with conflicts from a different perspective. In this case, the metaphor is the meaning reflected by the *codes*. Secondly, the metaphor theory has been widely applied to various aesthetic fields, such as painting, sculpture, architecture, and poetry. It reflects the human beliefs and comprehensions of the world. All metaphor applications, such as linguisticians, psychologists, and cognitive linguistics, have shown potentials for metaphorical expression to become a way that impacts visitor's conceptual interpretation instead of simple visual perception.

Chapter 4

Literature Review of Metaphor, Architectural Language and Linguistic-Semiotics

The language symbols can be traced back to *homo Erectus* society, the human ancestors. Although they differ from the modern language without a language system, these symbols are still the basis for studying human ancestors. One of the previous representative works related to linguistics is *Concerning the Language and Wisdom of India* (1808) by Friedrich von Schlegel, a German poet and philosopher. After 30 years, one of the first publications of the theory of language is *On Language* (1836) by Wilhelm von Humboldt, the Prussian philosopher and linguist.

Later on, Saussure proposed structural linguistics, which was then developed into the semiotic theory. It provides a theoretical foundation for the architectural language. Based on these publication theories, architecture had an opportunity to be compared to linguistics (Bordeleau, 2014). Indeed, architecture can be seen as a form of expression, which could be understood as a language (Forty, 2000). This characteristic defines the essence of architecture and its space inside. At the same time, metaphor, which is derived from the rhetoric perspective, is introduced into architecture based on the linguistic concept. Its direct theoretical basis is linguistics and semiotics.

Before employing these theories to examine metaphorical expression, it is necessary to establish the internal connections and distinctions between these frameworks. This chapter will examine the foundation of metaphor from its original application to developing a wide range of fields as the linguistic-semiotic system has been adopted in social science, including arts, films, food, cars, and architecture. The form and content, meaning and symbolic, and language behaviour have become the focus of the contemporary philosophy of architecture. As architecture develops towards a language

essence, the metaphor approach should have a similar nature with linguistics: convey and communicate the meaning of architectural language.

There are mainly two sections in this chapter. It provides a critical argument of theories of metaphor and its relationship with architectural language, which is drawn from linguistic and semiotic theories. This fundamental theory will be critical when considering the meaning of museum architecture and its impacts on visitors from different cultural backgrounds. In the first section of this chapter, the author examines the metaphor in linguistics and its relationship with cognitive theory. It focuses on linguistic and semiotic theory, especially the theory of architecture as a sign system. There are both spoken and written languages in the museums to convey the information. The meaning of the metaphor is used to guide and influence a human's everyday experience. This chapter will build a theoretical framework for the metaphor and its relationship with the narrative of museum architecture and exhibition.

4.1 The origins and development of metaphor in linguistics

4.1.1 Brief introduction

The term "metaphor" derives from the Greek word *metaphora*, which means to *transfer* or *carry over*. Metaphor is widely known as a figurative language. The conventional application of metaphor was defined as rhetoric in western literature, and it was used in poetry. One of the most critical applications of metaphor in the middle ages is the Bible, which creates an illustrative environment for literature, philosophy, architecture, and other fields (Onians, 1992).

Generally speaking, metaphor acts as a tool to make the strange familiar and link the two objects through imagination and creation literally. The characteristic of a metaphor includes two things/objects that are *similar*, *likeness* or *analogy*. In other words, it focuses on the similarity or analogy between two different things. The metaphor is widely used by writers, composers, poets, and artists nowadays in literature and art. However, Schön argued that the theory of metaphor is more than a figurative device. Metaphor is a cognitive structure that plays a significant role in transferring concepts between two complex conceptual systems, either words or images (Schön, 1963). George Lakoff and Mark Johnson (1980) also held opinions that metaphor is

conceptual, and it has a close relationship with the human cognitive system. Hence, they claimed the *conceptual metaphor* in the 1980s. It has become an approach of our cognition to understand abstract concepts through "cross-domain mapping".[41] This section briefly introduces metaphor from two perspectives: figurative and cognitive. By exploring the theories in detail, the author combines these two aspects to rethink the potentials of metaphorical expression for the museum's architecture and exhibition. First of all, it starts with the classical theory of figurative language and its development in cognitive theory.

4.1.2 Metaphor as the figurative language

The research of metaphor originated from classical rhetoric in ancient Greek-Roman philosophy. Plato and Aristotle were thought to have pioneered the use of metaphor. At the same time, each of them held one side, ambiguous and approbatory. Although Plato used metaphors in his writing (see in his *The Republic*), he did not define metaphor (Kirby, 1997). Besides, similar to other philosophers who held views against metaphor, he thought it violates truth. Plato's application is one of the earliest connections between metaphor and philosophy. Unlike Plato, his student, Aristotle, emphasised the decorative effect of metaphor in his *Poetics* and *Rhetoric*. Also, the concept of metaphor was defined in his *Poetics* (Aristotle, 1995), "Metaphora is the epiphora of the name (onoma) of something [to something else]" (Aristotle, 1995, p. 21). Aristotle provided the idea that metaphor can be separated from language and defined simply as a decorative language in poetics, establishing a foundation for the rhetoric theory. The modern definitions of metaphor are based on Aristotle's opinion, either against or agreeing with it.

At the beginning of the mid-nineteenth century, philosophers and rhetoricians focused on the meaning changes in metaphor simultaneously, which produced the *Classical Theories of Metaphor*. The characteristic of the classical theory is derived based on the literal-metaphorical distinction (Mácha, 2016).

[41] George Lakoff and Mark Johnson. Philosophy in the flesh: The Embodied Mind and Its Challenge to Western Thought. New York: Basic. 1999, p. 71.

In ancient Rome, philosophers and rhetoricians established the *theory of substitution* of metaphor to complete Aristotle's idea. For example, Marcus Fabius Quintilianus's book *Institutio Oratoria* argued the practice of rhetoric (Quintilian, 2006), and he said:

> By a trope is meant the artistic alteration of a word or phrase from its proper meaning to another… with the commonest and by far the most beautiful of tropes, namely, metaphor, the Greek term for our translation… A noun or a verb is transferred from the place to which it properly belongs to another where there is either no literal term or the transferred is better than the literal. We do this either because it is necessary or to make our meaning clearer or, as I have already said, to produce a decorative effect. (Quintilian, 2006, pp. 301-307)

Quintilian claimed the essence of metaphor is a *substitution* – the meaning was changed in the metaphorical expression. Similarly, Paul Ricoeur thought the function of metaphor was based on analogy or the similarity between two or more dissimilar things (Ricœur, 1978). Through analogies, metaphor can help to identify the meaning of unfamiliar objects. At the same time, it helps generate a new and more adequate interpretation. Furthermore, in his book, *Living Metaphor*, he proposed that metaphor can connect the sciences and philosophy of language in a productive way (Jervolino, 1990). In short, these scholars' viewpoints established the original definition and application of metaphor, which has laid a foundation for the theory's transition and expansion.

4.1.3 The transition of metaphor

As mentioned above, the oldest idea of metaphor can be traced back to Aristotle, who preliminarily explored the relationship between metaphor in language and communication (Fez-Barringten, 2012a). Although Aristotle's opinion provided the potential for the *substitution* of metaphor, it mainly illustrated the metaphor from rhetoric and poetic perspective.

From the perspective of classical theory, the study of metaphor has been unable to jump out of rhetoric and poetic. Western researchers began to make new progress in the study of metaphor from the 1930s, and the study of metaphor has evolved from rhetoric and poetic to linguistics. Moreover, it has gradually transformed into other fields, such as aesthetics, semiotic, cognitive sciences, and anthropology, since the

1960s. The representative philosophers' research studies are Cohen's semantics (1962), Searle's pragmatics (1979), Richards (1936) and Black's theory of interaction (1979).

According to John Searle's opinion, constructing a metaphor clarifies the *connection* between the literal language and symbolic meaning because the metaphor contains a hidden message behind the literal words (Searle, 1979). The literal meaning is formed in "A is B" and incorporated with the hidden message: "A is C". Thus, the relationship between A, B, and C constitutes the metaphor. For example, "he is old cattle" is a literal expression. However, we cannot take this sentence literally because a man cannot become cattle. It contains the symbolic meaning that *he works hard* as *cattle*. Therefore, the metaphorical expression is required to find the apparent similarity to achieve a reasonable sense.

On the contrary, Davidson believes that metaphor does not express anything beyond its literal meaning, and it relies on the statement meaning that it is made up of words (Davidson, 1978). The nature of metaphor is the original meaning in a metaphorical context. Terence Hawkes, an eminent critical theorist, proposed mainly two types of metaphor in western theory. One is *classicism,* arguing that implicit metaphor can be separated from language; the other is *romanticism* that discusses metaphor as inseparable from language—both of these two types limited metaphor into the language itself (Hawkes, 1972).

Compared with the opinions of substitution or connection, the *theory of interaction* proposed by the rhetorician I.A. Richards argues that metaphor is a way of thinking. In his book, *The Philosophy of Rhetoric,* he offered different opinions about metaphor. Firstly, metaphor is the universal principle of language, and it exists in everyday human life (Richards, 1965). However, it is difficult for us to find the way the metaphorical expression changes in meaning. Richards believed that the metaphor results from *the interaction between two concepts/objects*, which he defined as *tenor* and *vehicle*, respectively. He argued that the metaphor generates an inclusive meaning through the joint interaction between tenor and vehicle (Richards, 1965). This process works through our brains, which can connect different things. And there are no apparent boundaries between literal usage and metaphorical usage.

Based on the *theory of interaction*, Max Black, a British-American philosopher, provided further information about the relationship between *cognition and metaphor* in his book *Models and Metaphor*. He proposed the *vital* metaphor, based on the definition of the objects/concepts as the tenor, vehicle by Richards. Black argued that the scope of metaphor is wide enough for all disciplines, and the author can use it in a particular context (Black, 1962). Also, he treated the metaphor as *a cognitive instrument*. He argued with "a substitution view of metaphor", which means the "metaphorical expression is used in place of some equivalent literal expression" (Black, 1962, p. 31).

Besides, Black also agreed with the *interaction* between two concepts: a *primary* and a *subsidiary subject,* respectively. Again, take "he is old cattle" as an example; the metaphorical expression cannot equivalate to the literal meaning. The logical relationship implied here is that the reader needs to connect "he" with "old cattle"; the meaning of these two words shares a fundamental similarity for interaction to take place. Hence, the metaphorical meaning "he works hard" will be transferred. Besides, he defined the figurative word in a sentence as the *focus* of metaphor and other words as a *frame*, which means "[it] must be classified as a term belonging to semantics and not to syntax—or to any physical inquiry about language" (Black, 1962, p. 32).

The single word does not have meaning, whether it is metaphorically or not, and it only generates significance in a particular context with other structured words. In a metaphorical expression, the metaphor was treated as a code that the reader's task is to find the meaning in the frame. Some metaphorical wording is not based on the existing similarity or analogy between two objects/concepts, so the reader needs to establish a new connection to generate the meaning in their brains. Through analogy or expression of similarities between dissimilar, metaphors allow "creative mental leaps" to be made (Holyoak, 1995).

Except for *interaction theory*, the *comparison theory* is based on the psychology methods and focuses on the similarity and analogy of metaphorical expression. It can be traced back to the view of Aristotle, who viewed metaphor as an implicit comparison based on similarity. The comparison theory assumes that the similarity had already existed before the metaphor was established. Similarly, the opinion from

Emile Benveniste, a French structuralist who studied with Saussure, also proposed the relationship between metaphor and linguistics (Benveniste, 1971). He treats metaphor as a discourse phenomenon. It focuses on the changing meaning aroused by analogy. In other words, the context of language influences the importance of metaphor. However, these ideas did not provide enough proof to what extent humans' conceptual cognition impacts metaphor. They still become the foundation for conceptual metaphor theory.

In conclusion, there are two standpoints discussed here on metaphor (Figure 4.1). One is from the literal perspective, representing the connections between literal language and metaphor's figurative application (Davidson, 1978; Searle, 1979). It holds the opinion that the metaphor is generated because of the limitation of existing words and the human need to use old expressions to produce and convey new meaning. The other one treats metaphor as an analogy approach from the standpoint of cognitive view, which establishes the relationship between metaphor and human cognition (Richards, 1936; Black, 1962; Lakoff and Johnson, 1980, 2003). As Andrew Ortony claimed, the metaphor is a tool for supplying language limitation. He described metaphor in two aspects, which are *constructivism* and *non-constructivism* (Ortony, 1980). The *non-constructivist* system treated metaphor as unimportant and as a violation of linguistic rules grounded in logical positivism. At the same time, the *constructivist* approach assessed the importance of metaphor in language and thought. His opinions matched *interaction theory* (Richards, 1936; Black, 1962) and *comparison theory* (Aristotle, 1995; Ortony, 1980).

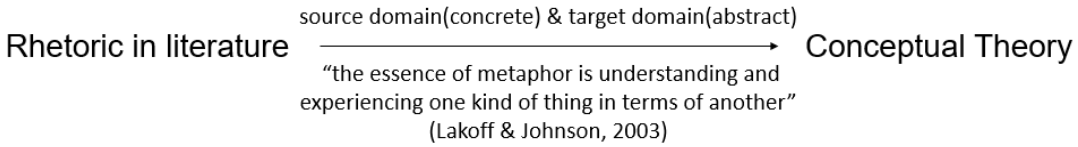


Figure 4.1 The transition of metaphor (source: author)

The purpose of discussing the standpoints above is to explore the role of metaphorical expression in architectural language. In general, metaphor is understood as a figurative language that connects to visual analogy. However, through the opinion of Richards and Black, it is evident that the metaphor of architecture has the equivalent

requirements—tenor, vehicle, and the interior connection or interaction between them. The comparison theory emphasised finding shared features that lead to a corresponding relation. Therefore, the metaphor of architectural language can be treated as the same as the linguistic metaphor. For example, “the museum is not just a container of objects”. “The museum” is the *tenor* in this statement, and “container” is the *vehicle*. When architects produce a metaphorical expression of a building, visitors cannot stop imagining what the building implies. In this process, the visitors interpret metaphor instinctively to find a commonplace based on their pre-experience and tell their various personal understandings. Their interpretations would be different from the meaning being recounted through analogy or mapping, not a corresponding one-to-one relationship. Hence, the metaphor is more than a figurative language, and it will become a tool to expand visitor’s cognition. The theories discussed above have laid down the foundation for the cognitive theory of metaphor. The next step will examine the metaphorical expression deeply based on the conceptual metaphor theory proposed by George Lakoff and Mark Johnson.

4.2 Linguistic-Semiolotic theory as the catalyst

The previous section has thoroughly reviewed the theory metaphor from its original figurative language to cognitive theory links early. The establishment of the structural-linguistic theory has become a catalyst for metaphor development. The connections between metaphor and architectural language are close to the linguistic and semiotic theory. This section reviews a brief evolution of metaphor and its application in cognitive theory, postulating that metaphor can be a practical communication approach in architectural design and museum content.

In order to understand the metaphorical expression of architectural language, it is crucial to establish the foundation from the theories of linguistics, semiotics, and cognitive theory. In other words, the relationship between architectural language and linguistic-semiotics has set a theoretical framework and a vocabulary of architecture. This section will review it from the following perspectives: linguistics and semiotics, and their relationships with conceptual metaphor and architectural language, respectively.

4.2.1 Structural linguistics and its development

4.2.1.1 Saussure's structural linguistics

The structural linguistics theory needs to start with Saussure. Ferdinand de Saussure (1857-1913) is a Swiss linguist who introduced the system of "linguistic sign" to language study in the early 1900s. In his book *Course in General Linguistics*, he proposed the distinctions between written language (*langue*) and spoken language (*prole*) from their inner duality. Their relationships were illustrated through three pairs of concepts, which are the *synchronic and diachronic*, the *syntagmatic and associative*, and the *signifier and signified*. Significantly, the duality relations between *signifier and signified* explored the principal planes of a sign, the expression and content, respectively.

Parole / langue

In Saussure's opinion, language (langue) is only one of the two separated parts of human communication. And it is different from human speech, *langage* (Saussure, 1966). [42] According to Saussure's definition, *langage* consists of *langue* and *parole*, respectively. This binary concept is the fundamental dimension of Saussure's theory.

> Langue is a social product of the faculty of speech and a collection of necessary conventions that have been adopted by a social body to permit individuals to exercise that faculty.
>
> Execution is individual, and the individual is always its master: I shall call the executive side speaking (parole). [43]

According to these definitions and illustrations, the *langue* refers to the idealised abstraction of language. In other words, it represents the existing rules and systems of language. P*arole* refers to the individual language used in daily life. As the basic

[42] Saussure, Ferdinand de. Edited by Charles Bally and Albert Sechehaye in Collaboration with Albert Reidlinger, Translated by Wade Baskin, *Course in General Linguistics* (London, Peter Owen Ltd. 1966), p. 9. "Langage" is "many-sided and heterogeneous; stradding several areas simultaneously – physical, physiological, and psychological – it belongs both to the individual and to society."

[43] Ibid, pp. 9-13.

concept, *langue* and *parole* have played a significant role in developing linguistic and further semiotic theory. As Hawkes quoted it, "…what is natural to mankind is not oral speech but the faculty of constructing a language, i.e. a system of distinct signs corresponding to distinct ideas."[44]

As architecture is regarded as a symbolic system (it has standard features with general language [45]), the duality concept—*langue* and *parole*—can be applied in the architectural semantics. According to the *langue/parole* distinguished by Saussure, *parole* involves the changes in meaning while the *langue* represents the abstract, stable, and systematic rules. Accordingly, the buildings are required to satisfy construction codes, such as physical structures, technical indicators, and other practical standards in the conventional language (*langue)*. Meanwhile, the buildings also express their abstract meaning through these construction codes (*parole*). The former is objective, while the latter is subjective. Hence, it is evident that metaphor is *parole* in a specific architectural context.

Besides, Saussure insisted on the *synchronic and diachronic* aspects of language to maintain language integrity due to the current and historical properties of language being distinct. Except for *langue* and *parole*, another vital binate concept is also introduced and explored by Saussure, *signifier/signified*.

4.2.1.2 Saussure's signifier and signified

With further development, the relationship between *signifier* and *signified* derived from Saussure's view on written and spoken language, and he proposed the term "semiology" to represent his theory (Saussure, 1966, pp.7-15).

> Language is a system of signs that express ideas, and is therefore comparable to a system of writing… A science that studies the life of signs within society is

[44] Terence Hawkes. Structural and Semiotics [electronic resource]. London: Routledge, 2003, p. 10.

[45] According to Giovanni Klaus Koenig, architecture is a system of sign vehicle—promoting certain behaviour, denotes meaning is the function it makes possible. And Umber Eco also said, sign as unit of an architectural code. Geoffrey Broadbent, Richard Bunt, and Charles Jencks. *Signs, Symbols, and Architecture*. Chichester: Wiley. 1980.

> conceivable; it would be a part of social psychology and consequently of general psychology; I shall call it *semiology*. (Saussure, 1966, p. 16).

The linguistic sign is a production of the speaker's communication to the listener between its *concept and sound-image*. In Saussure's opinion, the linguistic sign is a combination of a *concept* and a *sound-image* (Saussure, 1966, p. 67). Hereinto, the *sound-image* is not a physical thing but "the psychological imprint of the sound" (Saussure, 1966, p. 66). Within the theory of semiology, Saussure proposed to "retain the word sign to designate the whole and to replace concept and sound-image, respectively, by signified and signifier" (Saussure, 1966, p. 67). Saussure explained it through the concept of a tree (signified) and the sound-image by the word tree (signifier), which constitutes a linguistic sign, "a system of signs that express ideas".[46] Moreover, Saussure defined the relationship between *signifier and signified* as arbitrary, as the word "tree" does not represent the "tree-like" qualities. He claimed,

> Language is a system of interdependent terms in which the value of each term results solely from the simultaneous presence of the others.[47]

And he called this aspect of the linguistic sign *syntagmatic and associative* relations. Based on Saussure's concept of spoken and written language, other researchers such as Roman Jakobson, Louis Hjelmslev, and Roland Barthes have developed them to establish semiotic theory in the 1960s.

4.2.1.3 The development of structural linguistics into the semiotics

Roman Jakobson, a Russian-American linguist and literary theorist, became the pioneer of structuralism. He proposed the poetic function that not only belongs to language but also the whole theory of semiology. Hawkes explained Jakobson's viewpoint as:

[46] Terence Hawkes. Structural and Semiotics [electronic resource]. London: Routledge, 2003, p. 13.

[47] Saussure, Ferdinand de. Edited by Charles Bally and Albert Sechehaye in Collaboration with Albert Reidlinger, Translated by Wade Baskin. Course in General Linguistics. London: Peter Owen Ltd. 1966, p. 114.

> Poetic language, as we shall see when we consider Jakobson's linguistic theory, becomes a kind of specially intensified language in which signifiers act as signifieds, and which operates through its own internal laws, appropriate to and reflective of its own nature. (Hawkes, 2003, p. 54)

Furthermore, he postulated *functional linguistics* based on Saussure's structural linguistics during his research on the relationship between poetics and linguistics (Jokobson, 1960). The Prague school, where Jakobson led, focused on the distinction between cognitive and expressive functions under the influence of Saussure's structuralism. Instead of isolating the poetic or aesthetic function of language, the Prague school proposed the close cooperation of linguistics and poetics (Erlich, 1980), which lay down a foundation to establish a relationship between metaphor and semiotic theory.

Like Jakobson, the Danish Linguist Louis Hjelmslev, the representative of the Copenhagen school, also believed language is a sign system derived from Saussure. Unlike Jakobson's *functional linguistics*, Hjelmslev proposed *glossematic linguistics* in his book, *Prolegomena to a Theory of Language* (Hjelmslev, 1961). It further developed Saussure's linguistic sign into semiotics. Based on Saussure's *signifier and signified*, he replaced them as *expression and content*. What is more, he also innovated a pair of concepts: *denotation and connotation*. First of all, according to John Lechte's interpretation of Hjelmslev (Lechte, 2006), "no sign exists by itself in isolation; rather, signs are always in a context in relation to other signs".[48] Only in a given context does the sign function exist—expression and content.[49] The *denotation and connotation* stand for a more semiotic perspective. Denotation "is the area of expression which refers to a content", and the connotation refers to "the fact that the expression and content have taken together become another expression referring to another content".[50]

[48] John Lechte. *Fifty Key Contemporary Thinkers, from structuralism to postmodernity* [electronic resource]. London and New York: Routledge. 2003, p.136.

[49] The sign function here refers to "a dependence that fulfils the conditions for an analysis". Ibid., p. 154.

[50] Ibid., p.157.

These concepts play an essential role in architectural language via Umberto Eco and Charles Jenkens.

Another influential philosopher was Roland Barthes, and he is a French critic, philosopher, and semiotician. Barthes has improved Saussure's structural linguistics to the field of semiology in his *Elements of Semiology* (Barthes, 1967). Similarly, he also proposed four pairs of binary concepts of structural linguistics from a semiotic perspective, which are *langue and parole, signifier and signified, syntagm and system, denotation and connotation.*

In *A Lover's Discourse*, Barthes said, "we do not know who is speaking; the text speaks that is all".[51] It conveys the importance of the concept of *code* to Barthes's theory. Barthes developed his theory based on Saussure, Jakobson, and others. Barthes claimed that "…a general category langue/parole, which embraces all the systems of signs".[52] In his *Mythologies*, Barthes said, "myth is a message – not a concept, idea, or object". More specifically, myth is defined "by the way it utters its message". It is thus a product of "speech" (parole) rather than of "language" (langue)".[53] Also, in his *The Fashion System,* he used structural or semiotic aspects to analyse social phenomena, which provided *the entirety of the clothing code*. In short, Barthes has introduced structural linguistics to the sign system that can be applied to any field, such as garments, food, cars, furniture and other systems (Dorfles, 1970).

Moreover, according to Roland Barthes, there is no specific boundary between *signifier and signified*. However, Barthes holds a similar opinion with Hjelmslev's idea that the context for a sign influences its value.

[51] Ibid., p.138.

[52] Roland Barthes. Elements of Semiology/translated from the French by Annette Lavers and Colin Smith. London: Thirty Bedford Square. 1967, p. 25.

[53] John Lechte. Fifty Key Contemporary Thinkers: from structuralism to postmodernity [electronic resource]. London and New York: Routledge. 2003, p. 139.

Table 4.1 Roland Barthes's second-order semiotic system (source from Barthes. 1972, p. 113)

First-order	Signifier	Signified	Second signified
Second-order	Sign of first-order & Second signifier		

Furthermore, Barthes has enhanced a second-order semiotic system in *Mythologies* (Barthes, 1972). [54] It suggested that a new *signified* meaning can be added to the signifier generated via the original *signifier and signified* (Table 4.1).

4.2.2 The metaphor in semiotics

4.2.2.1 Jakobson's poetic function in the semiotics

Following the development of structural linguistics into semiotics, the metaphor can be regarded as a part of the semiotics. According to Hawkes (Hawkes, 2003):

> Everything in the work of art, and in its relation to the outside world . . . can be discussed in terms of sign and meaning. . . aesthetics can be regarded as a part of the modern science of signs.[55]

Furthermore, Jakobson found aphasia related to the binary opposition concept of *metaphor* and *metonymy* (Hawkes, 2003). By exploring the inter-relationship based on the system of signs, Jakobson claims that *metaphor* is a substitution based on an "associative in character and exploits language's vertical relations".[56]

Although Jakobson still focused on applying metaphor in poetic function, it has related to Saussure's structural linguistics rather than a merely aesthetic feature. Jakobson

[54] Roland Barthes, Mythologies/selected and translated from the French by Annette Lavers. London : Cape, 1972, p.113

[55] Terence Hawkes, *Structural and Semiotics* [electronic resource]. London: Routledge, 2003, p. 58. The original viewpoint was quoted from Jan Mukarˇovský, "Standard language and poetic language" in *A Prague School Reader on Aesthetics, Literary Structure and Style* selected and translated by Paul L. Garvin, Washington, D.C.: Georgetown University Press. 1964, pp. 43–4.

[56] Ibid., p.60.

claimed six factors that influence a different function of the language (Figure 4.2), especially for the verbal speech: *the addresser, the addressee, the message, the context, a code, and a contact (physical channel and psychological connection between the addresser and the addressee).*

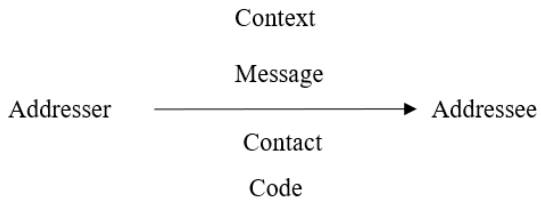


Figure 4.2 Jokobson's six factors involved in verbal communication (Jokobson, 1960, p.353)

According to Jakobson's explanation, the six factors contain the following definitions:

> The ADDRESSER sends a message to the ADDRESSEE.
>
> To be operative the message requires a CONTEXT referred to ("referent" in another, somewhat ambiguous, nomenclature), seizable by the addressee, and either verbal or capable of being verbalized;
>
> a CODE fully, or at least partially, common to the addresser and addressee (or in other words, to the encoder and decoder of the message);
>
> a CONTACT, a physical channel and psychological connection between the addresser and the addressee, enabling both of them to enter and stayed in communication.[57]

According to Jakobson, *metaphor and metonymy* are a binary opposed concept that fits into the linguistic sign. He said, "The addressee perceives that the give utterance (message) is a combination of constituent parts (sentences, words, phonemes) selected from the repository of all possible constituent parts (the code)".[58] He also emphasised two essential elements of interpreting the meaning of the sign, *code and context*. The vital contributions of the concepts from Jakobson established the theoretical

[57] Roman Jakobson, Closing Statement: Linguistics and Poetics. In Sebeok, Thomas A., ed. Style in Language. Cambridge, MA:MIT Press. pp. 350-377.

[58] Roman Jakobson, Morris Halle. Fundamentals of Language [electronic resource]. The Hague: Mouton,1980, p. 75.

framework of the latter research on metaphorical expression in the museum's narrative context, which is the coding of architects' discourse is the process of symbolisation in a specific context.

4.2.2.2 Derrida and deconstruction

Jacques Derrida, who represents a direct transfer of the linguistic to architecture with the transmitting messages, has become the initiator of deconstruction, known as post-structuralism. Since the 1960s, Derrida began to systemise his study of deconstruction to explore the nature of traditional western metaphysics. He attributed the philosophical question to the system of writing text in his *Of Grammatology* – "there is nothing outside the text" (Cummings, 2002).

Derrida introduces the term *Différance* to express his study of Saussure's theory of structural linguistics. He proposed differences to emphasise the difference between words' meaning, which is not the identity or difference between two identities (Lechte, 2006). Derrida also proposed his idea of *signifier and signified*,

> interchangeable; one is the difference of the other; the concept of the sign itself is no more than a legible yet effaced, unavoidable tool.[59]

Based on his *Différance* and deconstruction of *signifier and signified*, Derrida has applied many words with double meanings.

> Différance alerts us to a series of terms given prominence in Derrida's work whose structure is inexorably double: pharmakon (both poison and antidote); supplement (both surplus and necessary addition); hymen (both inside and outside). [60]

Significantly, he has argued his opinion on the relationship between metaphor and philosophy in his essay *White Mythology* (1971) and following with *The Retrait of*

[59] Jacques Derrida. Of Grammatology /translator preface by Gayatri Chakravorty Spivak.London:Hopkins University Press. 1976, p. lvi.

[60] John Lechte. Fifty Key Contemporary Thinkers, from structuralism to postmodernity [electronic resource]. London and New York: Routledge. 2003, p. 121.

Metaphor (1978). It emphasised a blurring distinction between philosophy and literature from the view of deconstruction. Although Derrida objected to reducing philosophy to rhetoric and poetics (Direk and Lawlor, 2014), it still can deduce the importance of metaphor. For the readers, the process of deconstruction is subjective and spontaneous. The reader needs to contrast the different meanings of words and then perceive and create newness, which exactly accords with the conceptual mapping introduced by Lakoff and Johnson.

With the *Différance* against structuralism, deconstruction has become an essential component that gradually entered philosophy, aesthetics, architecture, and many other fields, creating a social tendency of subversion and criticism. Different from Saussure's structural linguistics that concerned the language itself, Derrida's view of deconstruction emphasised the multiple interpretations of the text and refused the exact ideas of the author. Besides, he thought the meanings have changed in a different language context, and the new meanings were generated during the interpretation process. Thus, it is impossible to understand the original meaning of various readers. This opinion not only refers to the importance of metaphor in a different context but is also similar to constructivist learning in the museum.

In short, according to all the ideas above, from structural linguistic to semiotics, the central point is that the message should be delivered within a context, whatever the type of contact (visual, verbal, or aural). The creator of the museum (a contact) is the addresser, and the visitor is the addresser. The core idea conveyed through the museum content needs a context and a code. In this study, the author claims the metaphor of architectural language (code) created by the architects cannot be separated from the narrative context inside. Thus, the author suggests the design from inside-out to not only create a narrative context via architectural language but also link the narrative of architecture with museum content. More importantly, the metaphorical expression of architectural language also contributes to visitor's cognition and encourages their various interpretations based on their cultural backgrounds, which has a close relationship with cognitive theory.

4.2.3 The metaphor in cognitive theory

Due to Jakobson, Derrida, and other semioticians, metaphor can be introduced into the semiotics and connected to other theories rather than studied in poetic language. Instead of defining metaphor as a corresponding mapping, Lakoff and Johnson considered the nature of metaphor as *invoking global mapping* from an experientialist view. As Johnson argued in *Metaphor and Design*, "The metaphors that inform our thought and structure our knowledge ranges from those which might be regarded as functioning on a surface level in language to those which seem to work on a more deeply embedded cognitive level" (Johnson, 1992, pp. 144-145). It points out the development of metaphor from the *figurative level* to the deep *cognitive level*. Thus, metaphors do not draw on existing similarities but create parallels by providing structure for the target objects. This part combines the cognitive theory with the linguistic sign system to offer a comprehensive foundation on the role of metaphor in architectural language.

4.2.3.1 Lakoff and Johnson's conceptual metaphor theory

Lakoff and Johnson proved that the conceptual metaphor or metaphorical concept exists in humans' everyday life (Lakoff&Johnson, 2003). They focused on *conceptual metaphor theory*, which examined the linguistic and cognitive phenomena of metaphor. They argued that the *metaphor* should be treated as a conventional concept and action for our way of thinking and communicating. It is pervasive in our thought and action, not just in poetic language. As Lakoff and Johnson said, "our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature"(Lakoff and Johnson, 2003, p. 4). Specifically, they refused the view that metaphor is just figurative language.

> The first fallacy is that metaphor is a matter of words, not concepts. The second is that metaphor is based on similarity. The third is that all concepts are literal

> and that none can be metaphorical. The fourth is that rational thought is in no way shaped by the nature of our brains and bodies.[61]

They summarised four points on conceptual metaphor:

> First, the locus of metaphor is in concepts, not words.
>
> Second, metaphor is, in general, not based on similarity, as we argued throughout this book. Instead, it is typically based on cross-domain correlations in our experience, which give rise to the perceived similarities between the two domains within the metaphor.
>
> Third, even our deepest and most abiding concepts—time, events, causation, morality, and mind itself—are understood and reasoned about via multiple metaphors.
>
> Fourth, the system of conceptual metaphors is not arbitrary or just historically contingent; rather, it is shaped to a significant extent by the common nature of our bodies and the shared ways that we all function in the everyday world. [62]

They have proved it through the research on English linguistic evidence—the way people communicate through language. For example, Lakoff and Johnson have compared the concept *argument* with a metaphorical concept *argument is war*:

> Your claims are *indefensible*.
>
> He *attacked every weak point* in my argument. His criticisms were *right on target*.
>
> I *demolished* his argument.
>
> I never *won* an argument with him.[63]

The words in the above sentences (indefensible, attacked, target, and demolished) are commonly used to describe the concept of war. These words are applied to describe

[61] George Lakoff, Mark Johnson. Metaphors we live by. Chicago and London: University of Chicago Press. 2003, p.25.

[62] Ibid., pp.245-246.

[63] Ibid., p.4.

the intense argument and express a similarity to the fierce war. It reflects how people understand the concept of *argument* in their minds. People use words such as *win or lose* to describe the result of a debate, and the arguers will *attack* other opinions to protect their own. Thus, the statement of an argument is rhetoric and a conceptual level, and it guides the behaviour. More statements such as "time is money", "love is sunshine", and "life is the journey" are all humans' metaphorical expressions based on their comprehension. Since the *metaphorical expression* links to the *metaphorical conception* (Lakoff&Johnson, 2003), it allows the understanding of conceptual metaphor as a natural operation in human minds. A specific word may contain one or more conceptual meanings based on our cognitive system.

Here is a thing to notice, Lakoff and Johnson focus on the nature of conceptual metaphorical thinking instead of similarity. If someone just advocates similarity, it will cause problems, such as a person may not experience war, so there cannot be a mapping between war and argument. Therefore, this study emphasises metaphorical thinking and expression of architectural language rather than building similarities in the visual image.

Moreover, Lakoff and John emphasised the *primary metaphor*[64] from figurative language to conceptual mapping. The directional metaphor such as up, down, front, and back is a way to recognise the emotions or values of human society. This cognitive approach to metaphorical thinking could stimulate our comprehension and reflection in unfamiliar fields. Therefore, the metaphor system, especially that *primary metaphor*, has been embodied in the human mind, and people naturally think with metaphors. Furthermore, based on the *primary metaphor*, the cultural models, folk theories, and other widely built on the *complex metaphor* are examined. They used "A Purposeful Life Is a Journey" to discuss the complex mappings. As it exists as a belief:

> People are supposed to have destinations in life, and they are supposed to move so as to reach those destinations.

[64] *Primary Metaphor* is introduced in their book *Philosophy in the flesh : the embodied mind and its challenge to Western thought.* It focuses on the conventional conceptual metaphor and the metaphorical mechanism of reasoning.

A Purposeful Life Is A Journey.

A Person Living A Life Is A Traveler.

Life Goals Are Destinations.

A Life Plan Is An Itinerary.[65]

Beyond these conceptual mappings implied in this metaphor, it shows a complicated guideline for life that influences the material culture, such as planning an exact route to reach the destination, the obstacle that affects your journey, or the motivation to move forward. Similarly, the cultural-historical museums could be built and structured metaphorically, but the influences are beyond conceptual. The narrative connotation is a complex metaphorical system embodied in each part of the museum, including architectural expression, the narrative of spatial language, and objects' exhibition. The common sense of metaphor in our daily communication can serve to construct meaning and generate a connection between the audience's body, sensory, and museum objects. The *image schema* and *container schema* can be introduced in detail to show the complex metaphorical framework of the museum building's design.

Image schema of conceptual metaphor

Once Lakoff and Johnson worked out that metaphors can construct the way humans perceive, think and behave, they started to focus on how knowledge is transferred from one domain of experience to another and how the metaphorical conceptions structure our mind. As Figure 4.3 shows, the *image schema* compared the two things of conceptual metaphor with *cross-domain mappings*, which contains the relationship between the *source domain and target domain* (Lakoff&Johnson, 2003).

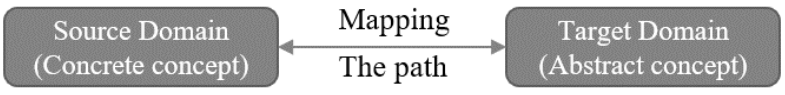


Figure 4.3 The interactions between the source domain and target domain (source: Lakoff and John, 1980, 2003)

Here, the author would like to emphasise the term used in the research on metaphor:

[65] Ibid., pp.60-61.

Source domain – the conceptual domain from which we draw metaphorical expressions (e.g., love is a *journey*);

Target domain – the conceptual domain that we try to understand (e.g., *love* is a journey).[66]

The mapping allows using the source domain inference the target domain. Although the terms of *tenor and vehicle* introduced by I.A. Richards are equivalent to the *target domain and source domain*, Richards's concepts did not point out the mapping relations between the two. The research of conceptual mapping has broadly extended not only for linguistics but also for the study of design, science, and other fields (Fauconnier and Turner, 2008). Similarly, the relationship between architectural language and metaphorical expression also can be illustrated (Figure 4.4).

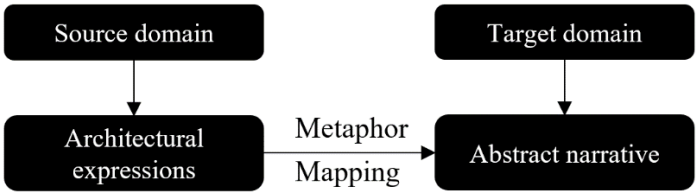


Figure 4.4 The relationship between architectural language and metaphor (source: author)

Image schema and architectural expression

In terms of the approach of *image schema* in architectural discourse, it draws upon the visual thinking to architect's discourse. The *image schema* is widely used in the exterior manifestation of a building, and it is the way architects express their ideas about the shape and form of the building or the story of the building they create. For example, the Sydney Opera House is described as a white sail-shaped shell metaphorically. The logic of the metaphor is expressed through the similarity between the shape of the building's roof (target domain) and the white sail (source domain).

Here, one thing to notice is that the source and target domains are not a single correspondence—visitors (readers) produce various interpretations based on their pre-experience and backgrounds. For example, designed by Professor Qi Kang, the

[66] Conceptural metaphor from Wikipedia, the free Encyclopaedia[online]. Available at: https://en.wikipedia.org/wiki/Conceptual_metaphor. Accessed date: 20th Nov, 2020.

building of the Henan Museum (Figure 4.5) is derived from the architectural symbol of the Dengfeng Observatory in the Yuan dynasty, which is one of the earliest astronomical facilities in Chinese history. The whole museum consists of nine units that symbolise the meaning of "Central China is settled by Nine Dings (九鼎定中原)" (Wang and Zhu, 2018). Hereinto, *Nine* is a holy number representing the maximum in ancient Chinese culture, and *Ding* is the most crucial ritual ware, meaning the extreme regalia (Figure 4.5). The museum's form is supposed to represent the centre of Chinese civilisation and the ancient source of science and technology. As an authorised interpretation expressed by the architects, the building itself has a close relationship with the museum's essence and cultural identity. However, in contrast to its solemn meaning, the museum is often described by the general public as "a pyramid-shaped tomb", which has a slightly negative meaning in China's culture. As the author mentioned the multiple interactions between the *source domain and target domain*, the interpretations of the building's narrative are various. Any part of the building can become the story expressed through architectural discourse. However, the cross-cultural museums in the context of B&R aim at communicating with visitors of different cultural backgrounds. Hence, the architectural language will be more effective in establishing a relationship with the exhibition narrative.



Figure 4.5 Ding[67] (left) and Henan Museum (right)[68]

[67] Yuan Quan, Wang Yiliang and Gui Juan, Found and hidden: Legend of China's buried treasure, People daily. Available at: http://en.people.cn/n/2015/0815/c90000-8936608.html. Accessed date:10th Oct, 2019.

[68] Shi Baoyin, Henan Museum opens after 5-year renovation [online], Chinadaily. Available at: http://www.chinadaily.com.cn/a/202009/24/WS5f6c870ea31024ad0ba7baee_2.html. Accessed date:10th Oct, 2019.

Furthermore, Lakoff and Johnson argued that conceptual metaphor provided an opportunity for a new understanding of the target domain through "creat[ing] target entities". This process is not just mapping but also "could add elements to a domain", which can be treated as a *Projection Metaphor* (Lakoff and Johnson, 2003, pp. 253-254). It allowed the different entities of the source domain superimposed on the target domain to generate new meanings. Similarly, the conceptual metaphor of a museum is to transform the abstract message or core idea to its visitors through museum contents and architectural entities.

Container schema of conceptual metaphor

In 1999, Lakoff and Johnson published another research *Philosophy in The Flesh – The Embodied Mind and Its Challenge to Western Thought*. In this book, they argued metaphor based on human bodily perceptions (Lakoff and Johnson, 1999):

> The mind is inherently *embodied*.
>
> The thought is mostly *unconscious*.
>
> Abstract concepts are largely *metaphorical*.

According to Lakoff, the embodied mind challenges the traditional western opinion of the mind. Replaced with the idea that the mind can be separated from sensibility and reason, Lakoff believes that reason cannot exist independently as the traditional theory stated; it has a close relationship with our *brains, bodies, and bodily experience*. He proves his point through colour concepts, basic-level categories, and spatial-relations concepts.

In particular, the spatial-relations concepts are the core of the human conceptual system, and it emphasises the spatial form and defines how people perceive it. The spatial relationships are not entities; they are abstract and unconscious subjective constructions, such as "in and out," "front and back," "up and down." Lakoff utilised the concept of *container schema* to explain the spatial-relations concept. It contains *an image schema, a profile, and a trajector-landmark structure* (Lakoff and Johnson, 1999, p. 28). Take "a cat sitting in the forecourt" as an example. It shows an image schema, a profile (the forecourt), a landmark structure (the house), an object (a cat). It has to conceptualise the boundaries of the garden as a three-dimensional container.

With complex perception, our brain can imagine the cat's activities. Moreover, the conceptual inference of a "container" consists of the interior, the exterior, and the boundary (Lakoff and Johnson, 1999; Lakoff and Johnson, 2003).

Figure 4.6 shows the logic of the *container schema* based on the structure of its image. *Container A* is defined with a clear boundary, and B is a container without a border. It can be straightforward to deduce that if object X is *in* A, and A is *in* B, thus X is *in* B. The container schema is conceptual, and the container can be physical or concrete. However, the object, the interior, the exterior, and the boundary should make no sense without a whole. The *container schema* helps to distinguish the interior, the exterior and the boundary of buildings. In other words, the expression of a building includes the architectural surface (the boundary) and interior space, and the exterior environment.

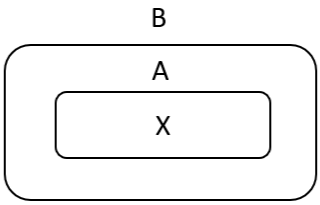


Figure 4.6 The logic of container schema (Lakoff and Johnson, 1999, p.29)

With the container schema, visitors can separate the different galleries of a museum and combine them to obtain integrated information. And the base of conceptualising spatial-relation is the human body. And the *container schema* also provides an opportunity to understand the *cross-domain mapping* between distinct conceptual domains. The different parts of the metaphors can be activated together to form a more complex metaphor. Because each human could be seen as a "container" with an inside and outside, we can easily define other objects or the substance they contain through the physical or fuzzy boundary.

Take an exhibition in the museum as an example. When visitors enter a museum, they start to visit an exhibition; both the exhibition and museum can be treated as the container separately. However, the museum (space) is a physical container. At the same time, each exhibition is a concrete container that carries the story (concept) narrated by designers, curators, and museum collections are objects. Thus, the museum (container) is constituted by a series of exhibitions (containers). Therefore, the

"container" here does not merely refer to the *skin* of the museum, and it also includes the layers of "containers" that consist of objects, exhibition devices, space, and the building itself (Figure 4.7).

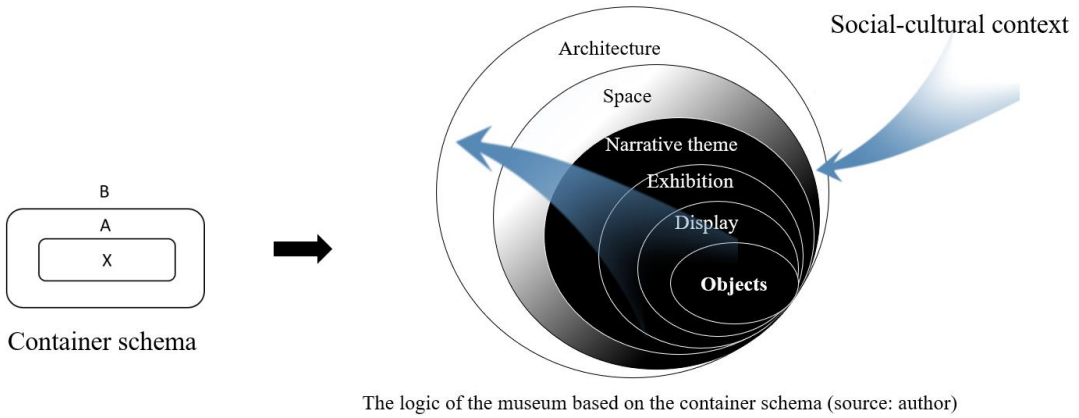


Figure 4.7 The logic of the museum based on container schema (source: author)

As a result, the museum building itself is a medium to contain these "containers," and these parts are in the context of the B&R initiative. Each layer of the museum can be expressed metaphorically; the combination of them is the core idea of museum content.

4.2.3.2 Michael Reddy's transmission metaphor theory

Based on Lakoff and Johnson's conceptual metaphor framework, Michael Reddy emphasised his *conduit metaphor*, which introduced metaphor to the relationship with the surrounding people and environments. For example, it focused on the opinion that no one *receives* other thoughts bodily in language. However, Reddy argued that all "communication achieve the physical transfer of thoughts and feelings" (Reddy, 1979, p. 167). Here are several examples proposed by Reddy to show his ideas:

> It's hard to *get* that idea *across* to him.
>
> I *gave* you that idea.
>
> Your reasons *came through* to us.
>
> It's difficult to *put* my ideas *into* words.

> Try to *pack* more thought *into* fewer words.[69]

These sentences imply that the utter put their internal ideas and thoughts into the external language (or signs). Hence, this logical framework was named the *conduit metaphor* by Reddy (Reddy, 1979). He expressed his conceptual *major* metaphor frameworks of the conduit metaphor as the following points:

> Language functions like a conduit, *transferring* thoughts bodily from one person to another.
>
> In writing and speaking, people *insert* their thoughts or feelings *in* the words.
>
> Words accomplish the *transfer* by *containing* the thoughts or feelings like and *conveying* them to others.
>
> In listening or reading, people *extract* their thoughts and feelings once again from the words.[70]

The *major framework* sees "ideas as existing either within human heads or, at least, within words uttered by humans" (Reddy, 1979, p. 170). Also, Reddy named the ideas or thoughts that transfer into external mediums (tangible containers) as the "minor framework" of the conduit metaphor, which "overlooks words as containers and allows ideas and feelings to flow into space between human heads" (Reddy, 1979, p. 170). He defined this framework as a *side-effect* of using the *conduit metaphor*.

> Thoughts and feelings are ejected by speaking or writing into an external "idea space";
>
> Thoughts and feelings are reified in this external space so that they exist independent of any need for living human beings to think or feel them;

[69] Michael Reddy. The conduit metaphor: A case of frame conflict in out language about language. In Andrew Ortony (ed.) :*Metaphor and Thought*. Cambridge: Cambridge University Press. 1979, pp.189-194.

[70] Ibid., p.170.

> These reified thoughts and feelings may, or may not, find their way back into the heads of humans.[71]

Both major and minor frameworks focused on the embodiment and transmission of thoughts and ideas. However, the *major framework* claims that the thoughts or concepts are contained in words and transferred directly from one person to another; on the contrary, the *minor framework* explains the thoughts are transmitted through objects, text, or spaces around us. These two frameworks are independent because of different ways of transmission. The *major framework* focused on conveying the thoughts themselves rather than the medium, while the *minor framework* cannot be separated from the surrounding mediums.

Reddy claimed that people tend to conceptualise their thoughts, ideas, and concepts as substances that can be transferred from one domain to another through a *conduit* like a pipe or *contained* in objects, texts, or spaces around us (Reddy, 1979, pp. 284-324). Therefore, the *major framework* is the *conduit metaphor*, and the *minor framework* is the *container metaphor*, respectively. In the paper, *Under the spell of metaphors: investigating the effects of conduit and container metaphors on museum experiences*, Dimitra Ntzani has focused on the visual impacts on visitors and the spatial organisation instead of representation (Ntzani, 2015). Ntzani has explored Reddy's transmission metaphor and the influences of *conduit metaphor* on visitor experience (Ntzani, 2015). She analysed the extended meaning of the *conduit* metaphor, which focuses on the transmission of objects' display without the influences of the museum building.

On the contrary, the *container* metaphor is often adopted by architects to create an attractive environment, and sometimes they overlooked the information of the objects themselves. The author uses the metaphor to describe the influences of different museum forms on visitors. However, how to express the connections between the container and the objects is not clear.

[71] Ibid., pp.170-171.

Lakoff and Johnson examined the highlighting and hiding points of metaphorical concepts, and they think people may lose sight of other aspects and focus on one part of a concept in terms of another. They have analysed Michael Reddy's *conduit metaphor* as an example of this opinion in the book *Metaphors We Live By*, which states the communication process as the utterers put their ideas (objects) into words (containers) and send them to receivers. However, the critical problem lies in the context in which the speaker or writer uttered. Because the receivers understand the same words differently based on their experience and culture, both the words and meanings must have their purposes, particularly in a different context (Lakoff and Johnson, 2003).

In short, the conceptual metaphor is a potential approach in terms of transferring cultural information through museums, heritage sites, even the objects in the museums. Besides, the transmission metaphor can be applied either as the conduit that transmitted stories (narrated and organised by designers) between designers and visitors or the container of cultural values and scientific truth that represent themselves. Especially for cultural-historical museums, the objects represent both historical records and part of the museum narrative. Therefore, no matter the conduit or container metaphor, the content delivered cannot be separated from their context. As the *container schema* shows, it is essential to consider the context both inside and outside of the building regarding the museum's design.

4.2.3.3 Summary of conceptual metaphor and its potentials

From figurative language mainly adopted in poetics to develop into the cognitive field, the application of metaphor has been broadened (Lakoff, 1980; Lakoff and Johnson, 1999; Lakoff and Johnson, 2003; Gibbs, 1994; Fauconnier and Turner, 2008; Ortony, 1980). The following opinions can be concluded from the conceptual metaphor referring to museum design in the context of the B&R:

- Compared to other metaphors that emphasise the ornamental and literal effects, the conceptual metaphor theory refuses to treat metaphor only as figurative language. It defines metaphor as an approach of thoughts and actions in nature. Lakoff and Johnson propose that conceptual metaphor theory can impact the way

humans behave and act from a cognitive perspective, which expands the potential application of metaphor in other fields.

- The *cross-domain mapping* between the source domain and target domain focuses on establishing the cognitive connections between these two domains beyond the similarity between them.[72]
- The transmission metaphor focuses on a particular perspective of the object/thing to establish a connection to help the reader understand the information. However, either the conduit metaphor or container metaphor cannot separate itself from the contextual environments. Therefore, the expression of museums is influenced by both internal (narrative) and external (social-cultural) contexts.
- The relationships between the target domain and the source domain can be systematic. Once the metaphorical concept is achieved, the target domain can be interpreted from a multi-layered perspective based on the visitor's pre-knowledge and experience.

Lakoff and Johnson have recorded many metaphorical systems in everyday language. There are other views on metaphor. Fauconnier and Turner also began the research on *blending* the theory of mental space related to human cognition in the early 1990s. They claimed that the mental spaces, including a *generic space*, *input space*, and *blended space*, can be correlated with conceptual metaphors. Lakoff proposed the metaphorical expression was the mapping from the source domain to the target domain. The *blending theory*, however, held the opinion that the mental mapping was more complex between the source domain and the target domain. These two domains will be re-constructed in the *input space* to generate a new structure (Caballero, 2006; Fauconnier and Lakoff, 2009).

Different from the theory of narrative that was introduced in western countries, there is no systematic theory of metaphor in eastern countries, especially China, in the early stage. Similar adaptions were used in classical Chinese poems for the author's emotional expression or allegories to express the author's philosophy concepts. Both of them mainly focused on figurative language instead of other fields. Hence, the

[72] Chapter 4.1.3 has mentioned that comparison theory is based on the similarity of two objects.

summary can be drawn that metaphor is close to the cognitive domain. The author believes that architects from foreign countries should rethink the meaning (as the *signified* referring to the sign) expressed through architectural language and its impacts on visitors from different cultures. The museum, among other public buildings, has significant cognitive influences particularly.

Under the context of the B&R, the cultural-historical museums are not only providing information and knowledge; they also communicate with the cognition of cultural identity and emotional resonances. Thus, the interior narrative of spatial language is as essential as architectural form and manifestation, and the relationship between the *signified* of spatial language. An object's narrative is even more crucial. The spatial language of the cultural-historical museum should contribute to the visitor's dual experience of cognitive and emotional communication instead of didactic learning. Next, the author focuses on the relationship between metaphorical expression and architectural (spatial) language. As the nature of metaphorical expression is communication, the following part will firstly explore how metaphor is applied in architectural language. Then it makes a clear illustration of the way metaphorical expression can establish the connection between museum content and architecture, as well as architects and visitors.

4.3 The potentials of metaphor in architectural language

From the detailed reviews above, both metaphor theory and architectural language can be introduced into the semiotic system. The application of metaphor in the architectural design shows the internal relations between metaphor and architecture, which associates with architectural meaning in a specific context. And metaphor becomes a way to tell the story of the building from various aspects. Based on the linguistic and semiotic theory, the deep relationships between architectural language, architectural *signified* (connotation), and narrative expression - the communicative elements of museum architectural discourse, can be explored. This section will introduce three parts to examine the communication and presentation of metaphor in architectural language based on metaphor in cognitive theory and metaphor in semiotics.

4.3.1 Metaphor and conceptual theory

Metaphors are used initially in communication as literal decoration. Lakoff and Johnson's theory makes it can be adopted into broader domains, such as science, engineering, education, art, and design (Lakoff and Johnson, 2003). The non-image metaphor is "an approach to architectural texts in terms of conceptual metaphors involves metaphorical language as symptomatic of particular and systematic ways of thinking rather than being a decorative device for stylistic purposes only".[73] Although the application of metaphorical expression in architectural language is not a new conversation, there is a contradiction between the embodiment theories of Lakoff and Johnson and several architectural theorists. This conversation proves to be quite insightful in providing a new understanding of metaphor for architecture and design.

As mentioned, the metaphorical approach is a way to convey the abstract concept of architectural language. It was initially derived from the analogies of literature that transfer information from the *source domain (signified)* to the *target domain (signified).*[74] It can be used between the same discourse, and it can also occur between different disciplines. During the transfer process, people can understand the source domain, target domain, and the transfer between them (Van Acker and Uyttenhove, 2012), making it a bridge between different disciplines. Hence, architects applied the metaphor to convey their ideas to the audience.

In the paper, *Metaphor and Cognition's Axioms*, Barie Fez-Barringten argued the differences between conceptual metaphors (metaphorical concepts) and linguistic metaphors in architecture. He said:

> The former (concepts) refers to "love is war" and "love is Journey", while the latter is actually "linguistical" in nature. Metaphorical language, consisting of specific linguistic expressions, is but a surface manifestation of the realization of conceptual metaphor. Conceptual metaphors are systematic mappings across

[73] Rosario Callballero. *Re-viewing space: figurative language in architects' assessment of built space* [online resource]. Belin & New York: Mouton de Gruyter. 2006, p.3.

[74] Chapter 4 will give a detailed review of the metaphor theory both in linguistic theory and conceptual theory, from its origins in literature to a wide range of applications based on semiotics.

> conceptual domains: one domain of experience: the target domain (architecture). Conceptual Metaphors (not literal) occurs where the metaphor (or extension of meaning from one object to the other) is not in words themselves but is the mental image. The words (or in the case of architecture the shapes, forms, materials, etc.) are prompts for us to perform mapping (cognition) from one conventional image to another at the conceptual level. (Fez-Barringten, 2009)

Fez-Barringten agreed with the opinion proposed by Lakoff that metaphor is conceptual. One of the typical studies of conceptual metaphor focuses on the comment on buildings that have been built from *Architectural Reviews*. It helps readers interpret and understand the architectural design by connecting literal language and physical language. Hence, the metaphorical expression acts as an approach to communicate the meaning of the building concept. Specifically speaking, in Rosario Caballero's article *Language, space and body: Sensing and construing built space through metaphor* (Caballero, 2014), she mentioned that the elements of architectural metaphor could be referred to in natural science, language, and textiles. As Figure 4.8 shows, descriptions, such as "the architectural practice is cloth making," "architecture is language", and "buildings are living organisms",[75] relates to the fabric, linguistics, and body structure, respectively.

Source domains	Metaphors and examples
ORGANIC	BUILDINGS ARE LIVING ORGANISMS *skin*, *membrane*, *skeleton*, *rib*, *haunch*, *hip*, *footer/footing*, *bowels*, *blister*, *fatigue*
TEXTILES	ARCHITECTURAL PRACTICE IS CLOTH MAKING *stitch*, *weave*, *thread, knit* BUILDINGS/CITIES ARE CLOTH *city's/building's fabric*, *tightly-knit* (spaces) BUILDING ELEMENTS ARE PIECES OF CLOTH/CLOTHING *clad(ding)*, *jacket(ing)*, *sheath(ing)*, *sheet(ing)*, *curtain wall*, *apron*, *blanket*, *sleeve*
LANGUAGE	ARCHITECTURE IS LANGUAGE *imagery*, *lexicon*, *vocabulary*, *syntax*, *idiom, rhetoric* BUILDINGS ARE TEXTS *vernacular*
MACHINE	BUILDINGS ARE MACHINES *mechanisms*, *mechanics*
MUSIC	ARCHITECTURAL PRACTICE IS MUSICAL PRACTICE *choreograph*, *orchestrate* BUILDINGS ARE MUSICAL PIECES *rhythm*
SHAPES & 3-D OBJECTS	*I-beam*, *I-joist*, *J channel*, *V-truss* *butterfly/sawtooth roof*, *half-barrel/barrel/corbel/fan/groin/net/spiral vault*

Figure 4.8 The metaphor in architectural reviews (Caballero, 2014, p.113)

[75] Ibid., p. 73.

Another word similar to metaphor - “symbolism”, is usually used to express the symbolic meaning of architectural form (as the author mentioned in section 3.2.2). For example, the forbidden city is an embodiment of ancient imperial power. Here the author would like to distinguish metaphor and symbol with two sentences: “life is a journey” and “the ring symbolises marriage”. The former sentence not only compares life to a journey but also implies that life is as full of unknowns as a journey. As Gill quoted Suzanne Langer, “A metaphor is not a language, it is an idea expressed by language, an idea that in its turn functions as a symbol to express something” (Gill, 1994). The latter is an instinctive reaction and a specific interpretation. In the case of symbolism, it is the art or practice of using symbols, especially to express the invisible or intangible by giving things symbolic meaning or using visible representations. In other words, symbolism is conventional cognition. Conversely, metaphor is a way of stimulating the imagination and understanding alone.

It can be seen that there are similarities and differences between “metaphor” and “symbolism”:

- As literature is a specific way of expressing linguistic signs, both are language signs, which is a relationship of single *signifier* mapping with multi *signified*.
- Symbolism expresses abstract concepts, emotions or feelings by a concrete image of something (someone). It is an image description that directly appeals to various senses in imagination – the symbolic meaning according to the feature of architectural form. Also, it is a fixed thought and mind.
- Metaphor is to establish a connection between two different things indirectly, while symbolic is the conventional collocations. A metaphor is a transition between different contexts, and it consists of *signifier/signified* based on semiotics. Compared to the conventional meaning, metaphor emphasises the *signified* meaning instead of the *signifier*. It requires imagination and interpretation, and it can be adopted into conceptual cognition rather than literature.

However, its critical thinking holds the opinion from the linguistic perspective instead of physical architectural language. Interpreting the physical architectural language is not the same as reading architectural reviews. Architectural reviews usually devote to assessing buildings’ aesthetic value based on image schema (Caballero and María,

2003, pp. 104-105). Indeed, metaphor is not only an essential tool for theory formation or architectural reviews but also becomes a vital element for the process of designing a building. Furthermore, this study claims that metaphor is not only an approach to develop a museum as a figurative language but also provides a method for visitors to perceive and cognise the museum content via architects' discourse.

4.3.2 Metaphor and semiotics

4.3.2.1 Charles Jencks and metaphor in language of postmodern architecture

Charles Jencks, an American cultural theorist and architectural historian, claimed the architectural sign into studying the language of postmodern architecture (Jencks and Baird, 1970). He thought semiology or the theory of signs had been the fundamental science of human communication, and the meaning of architectural language is to communicate.

Jencks proposed semiotics in architecture to examine the complexities of the language of postmodern architecture in decoration and symbolic form (Levin, 1978) and the multiple meanings repressed by modernism. In other words, he broke the rules framed by modernism, especially the relationship between form and function. He claimed that the architectural symbols consist of two parts: the architectural form is the *signifier*, and the symbolic meaning is the *signified* (Jencks and Baird, 1970). In Jencks's opinion, the essence of "architecture is the use of formal *signifiers* (materials and enclosures) to articulate *signifieds* (ways of life, values, functions) making use of certain means (structural, economic, technical and mechanical)". [76] According to Jencks, the *signifier* is the "expression plane", which refers to the form, space, surface, colour, and texture; and the *signified*, is the "content plane" constituting the concepts or values to which the *signifiers* explicitly or implicitly refer (Figure 4.9).

[76] Charles Jencks. The Architectural sign. In Geoffrey Broadbent, Richard Bunt, Charles Jencks (ed.): *Signs, Symbols, and Architecture.* Chichester: Wiley. 1980, p.72.

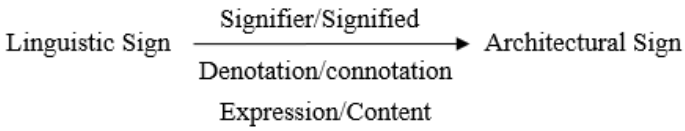


Figure 4.9 The relationship between semiotics and architectural language (source: author)

Jencks also claimed that the essence of metaphor is the way that can convey the meaning of architectural language through *association* (Jencks and Baird, 1970). This argument coincides with the cross-mapping proposed by Lakoff and Johnson. Thus, the architectural metaphor is a descriptive tool to link the denotative meaning (created by the architect's discourse) and the reader's multiple interpretations. What's more, Jencks also expanded on the work of Saussure and Roland Barthes. He established the *metaphor, word, syntax, and semantics* for architectural language.[77] As noticed by Jencks, the essence of metaphor is to express the communicative aspect of architectural language between the user and designer. Similarly, it becomes a way to communicate the architect's discourse and the visitor's cognition of the museum content. Although the application of metaphor was derived from literary language, it was developed into broader fields with conceptual theory, contributing to the communication nature of architectural language.

4.3.2.2 Expression plane and Content plane

Louis Hjelmslev, the Danish linguist, introduced the binary concept of *expression plane* and *content plane*, which is based on Saussure's foundation. Similar to *signifier* and *signified*, he divided the "sign" into the *expression plane* and *content plane* (Broadbent et al., 1980). This theory contributes to the expression of architectural language as Jencks introduced the binary concept to the language of post-modern architecture.

Based on the connection between architectural language and semiotics, there are two levels of *signified or content plane* conveyed through the architectural physical form influenced by structure, material, and technique. Firstly, materials such as concretes, glasses, steels, and bricks can only convey denotation through specific expression via

[77] Matt Roads. Semiotics, Language & Architecture [online rescource]. Avaliable at: https://www.linkedin.com/pulse/semiotics-language-architecture-matt-roads/. Accessed date: 10th Oct, 2019.

the architect's discourse. For example, a piece of glass only represents a window (denotation) when it is installed in the proper position; otherwise, it is merely a piece of glass. Secondly, the architecture contains the pursuit of the aesthetic in a philosophical way, which belongs to the cultural values of architecture on the content plane. Take the Chinese traditional architectural element—Dougong—as an example; it not only represents the construction of physical stress in wooden architecture but also conveys the symbolic meaning of a symbiotic relationship in human culture. These two aspects introduced the semiotic properties of architectural language from the *expression plane and content plane*, respectively. Therefore, the metaphorical expression is an approach to convey the architectural language on the *content plane*. As noted by Adrian Forty, language provides a "workable, and indeed possibly the best metaphor"(Forty, 2000, pp. 84-85). There are default principles that compare architecture to language. Figure 4.10 summarises the role of metaphor in the symbolic architectural frame.

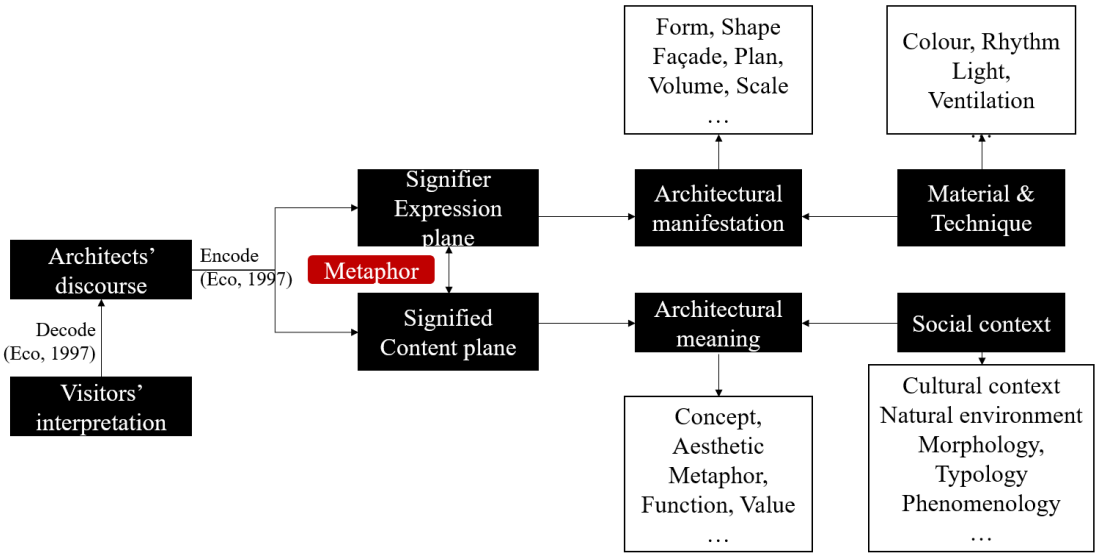


Figure 4.10 The role of metaphor in the architectural sign system (source: author)

Combined with the narrative theory, metaphor can be treated as an approach to tell the stories of architecture itself. The various elements such as form, scale, material and other factors are discourse, while the architect's concept, aesthetic or social values are stories. Hence, architectural design is a coding process.

4.3.2.3 Umberto Eco & architectural codes

Saussure's theory has introduced the system of signs that lay the foundation for architectural language. Until the eighteenth and nineteenth centuries, there still existed a distinction between visual and linguistic forms to the theorists. The architectural language aims to create an aesthetic and visible manifestation based on techniques more than a literary narrative. Thus, art forms have been shown to be related to the study fields for the application of the semiotic theory or to be semiotic in nature or to be equivalent to linguistic systems to some extent (Munro, 1987).

Based on Saussure and Charles Peirce's theory of the semiotic system, Umberto Eco introduced semiotics into architecture. He developed his theory based on *codes*, which are divided into *specific codes* and *general codes.*[78] Hereinto, *specific codes* means the codes of particular languages, while *general codes* refer to the whole structure of language. In his book, *A Theory of Semiotics* and the article *Function and Sign: The Semiotics of Architecture*, Eco has applied his concept of codes to the field of architecture (Eco, 1997).

By taking the example of the concept—cave formed by man in the Stone Age—Eco illustrated the communicative nature of architectural codes through graphic signs in a specific context. The cave denotes not only the shelter function but also the family or the group. Eco reconsidered the statement of architectural language and its relationship with the semiotic system to strengthen its communication capability. As a result, Eco treated architectural signs based on "codified meaning that in a given cultural context is attributed to the sign vehicle".[79]

As the architectural language usually focuses on function rather than communication, Eco introduced the *denotative and connotative* of architectural codes, respectively. He classified the architectural codes as *technical code*, *syntactic code*, and *semantic code*. According to Eco, an architect's design is a process of encoding while the user's

[78] Umberto Eco. Function and Sign: The Semiotics of Architecture. In Neil Leach (ed.) :*Rethinking architecture: A Reader in Cultural Theory*. London, New York: Routledge. 1997, p. 173.

[79] Ibid., p.175.

visit and perception are decoding. In his opinion, beyond the *denotation* of function, it has *a connotation*. For example, the throne has its denotation meaning—the king's seat, while it also represents the connotation—royalty. In other words, the *connotation* is different according to a different interpreter within a specific cultural context. And sometimes, it isn't easy to judge the importance of denotation and connotation.

Furthermore, Eco proposed how architectural codes can have impacts on visitor's perception based on semiotic theory, which establish a communication system of the architectural symbols. As he said, the sign is "the object of a possible interpretation by a possible interpreter" (Eco, 1977, p. 16). Perhaps in Eco's opinion, the interpreter is more important than the emitter. Because the sign intends to communicate between emitter and interpreter, Eco claimed that architects should consider both connotations and denotations codes (Eco, 1997, p. 191).

In the author's opinion, the cultural-historical museums as an integrated semiotic system can express meanings to visitors from different cultural backgrounds based on decoding and encoding. What's more, the architectural work needs to be assessed from an aesthetic perspective and interpreted within a specific cultural context. Hence, the architects, as the emitter, their discourse is as critical as the visitor's interpretation. For example, the connotation meaning and emotional resonance of architectural language have been neglected since modernism's *forms follow function*. The architectural language becomes stable and stereotyped in modernism, leading to a lack of cultural meanings in architectural expression. On the contrary, postmodernism advocated the regional, cultural meaning and architect's self-expression, bringing the disconnection between architecture and museum content. In addition to Eco's discussion of the communication of architectural language, other scholars also discussed it based on the linguistic and semiotic system.

4.3.3 The metaphor on different layers in the narrative

Lakoff and Johnson focused on the transmission between "domains" (Lakoff and Johnson, 1980, 2003). However, Kövecses claimed the source domain might include much more content than the target domain, which means the "domain" is too broad in a mapping. According to Kövecses's multi-level view of metaphor (Figure 4.11), he

argued four schematic hierarchies of conceptual metaphor – *image schemas, domains, frames and mental spaces* (Kövecses, 2015).

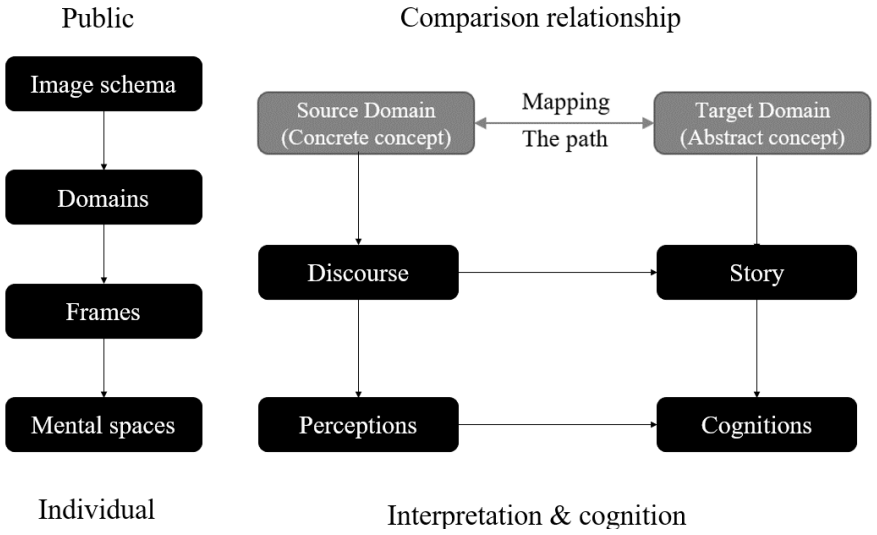


Figure 4.11 The four layers of metaphor (Kövecses, 2015)

The image schemas are embodied and perceptible objects; the domains represent an integration of different characteristic aspects; the frame can classify the domain as "frame elements"; and the mental spaces refers to specific communicative situations or contexts. From the image schemas to the mental spaces, the metaphor is more explicit but less schematic. As Kövecses said,

> Frames constitute domains, and domains are supported by image schemas. Mental spaces, or scenarios and scenes, are contextualized and online specifications, elaborations, modifications, and fusions of frames (Kövecses, 2015).

This four-layered view of metaphor can account for various metaphor related fields. In the book *Re-Viewing Space: Figurative Languagein Architects' Assessment of Built Space*, Caballero thought any use of figurative language should be in a context, which directly affects how people use metaphor to think and communicate. And, visitors can interpret variously based on their pre-knowledge and cultural backgrounds.

From the discussion above, it is clear that the metaphor communicates the connotation meaning (on the *content plane*) according to the linguistic and semiotic theory. However, it is necessary to define a specific context because the cross-domain mapping is not simple and may evoke multiple or opposite metaphors. Based on the

levels of metaphor, it actually shows the encoding and decoding of architectural discourse in a hierarchy. The architectural expression and abstract narrative can be adapted to the semiotic system (Figure 4.12).

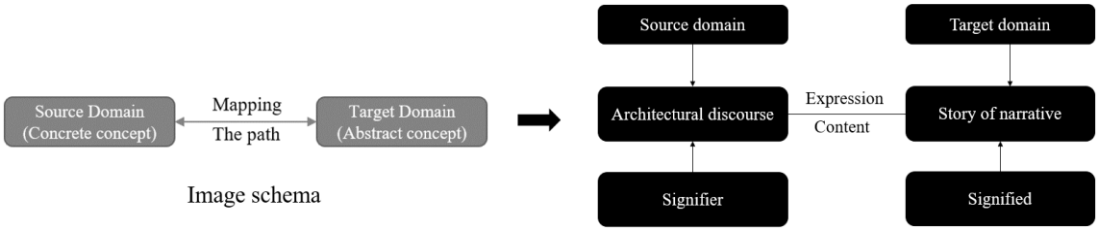


Figure 4.12 The application of the semiotic system into the metaphorical approach (source: author)

Firstly, the metaphorical expression of the narrative story is a process of cross-domain mapping. The designers use architectural and exhibition discourse to code the cultural value of the narrative theme. Secondly, it tells the story to the visitors in a narrative context. Thirdly, the story of the narrative is conveyed through the meaning formed by the discourse, which cannot be separated from the narrative context created by the architect's discourse. A closed and interrelated relationship is formed, and it provides visitors with an experience from perceptual to conceptual and finally spiritual experience.

The metaphor is defined as two levels in this study, which are the *superficial layer and the deeper layer*. The *superficial layer*, based on the analogy and similarity—the fundamental characteristic of metaphor—conveys the form and manifestation of architecture, such as the layout organisation, the colour and shadow, the shape of construction, and the skin material. While the *deeper layer* refers to the conceptual expression that communicates the value, the concepts and the reflections refer to the abstract connotation of architectural language. Therefore, if architects blindly pursue the effects of the *superficial layer*, on the one hand, it will inevitably lead to formalism.

On the other hand, if the architects excessively focus on their ideal concepts of architecture, this may cause a lack of function among the buildings, or the meaning of the building cannot be effectively conveyed to the audience. This issue is the contradiction between architects and audiences. So far, this chapter has analysed the theoretical framework of metaphor and has argued that metaphor is an approach for communicating the *signified* architectural language (content plane).

4.4 Summary

It can be seen that analogy metaphor and conceptual metaphor are both applied in architectural language. The metaphorical approach always indicates the meaning between architectural manifestation within its social-cultural context rather than the narrative content inside. Similar to Chinese hieroglyphics, it is derived from pictographic characters. The expression of architectural form is easily associated with images. But now, this figurative graphic thinking is slowly abandoned. The *signifier* of building and the *signified* affect each other via an abstract expression. Hence, metaphor becomes an approach to deliver an architect's abstract ideas.

Except for architectural form, structure and components mentioned in Chapter 3.3, the author claims the fourth aspect for architects discourse of applying metaphorical expression, which participates in constructing the narrative context. The architecture should become a medium between museum content (narrative context) and social context. Therefore, the metaphor aligns with how the museum can adapt to each cultural group's differences.

The narrative-oriented metaphor indicates that the museum should provide a place for embodied object's narratives. Therefore, metaphor is not only the way to express the architect's ambitions but also becomes a way that communicates with users or audiences. As Susan Pearce argued, objects are the core of museums (Pearce, 1995). Thus, the relationship between the museum building and its content needs to be fully considered during the design process.

Moreover, the context for metaphorical expression needs to be reconsidered. The author also believes that the metaphorical expression of architectural language needs to be integrated with its narrative to enhance communication power, except for the stimulation of social identity. The museum building does more than provide an empty container. It is a participant in the construction of narrative. The metaphorical expression of the building is not only for decoration purposes but also for influencing the way visitors perceive the core idea (target domain) through the narrative of objects inside (source domain). The differences and sameness of the general metaphor and narrative-oriented metaphor can be illustrated in Figure 4.13.

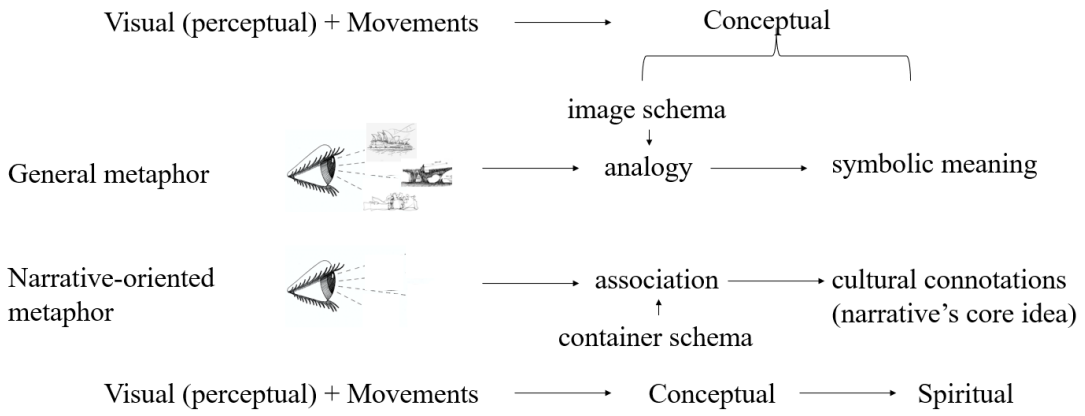


Figure 4.13 The operation of narrative-oriented metaphor (source: author)

Based on the theoretical reviews above, the following correspondence can be obtained to make a further discussion. Moreover, the story of intercultural interactions is the museum's essence along the Silk Roads due to cultural diversity. This symbolic or iconographic expression of architecture may inevitably induce misunderstanding that influences visitor's understanding and communication of the museum contents. Hence, the study emphasises the deeper-layer (conceptual) connotations of architectural metaphor that visitors perceive with an open mind and help their cognition of the narrative inside. Having examined the theoretical framework of metaphor and its application, the author will discuss how narrative-oriented metaphor works for the museum's design.

Chapter 5
The Framework of Narrative-oriented metaphor

Unlike the development of museum architecture in the West, China did not have a real museum until the nineteenth century. The Aurora Art Museum in Shanghai was the earliest in modern China that was built by the French. The Nantong Museum (1905) was the first comprehensive museum. The cultural-historical museums are devoted to displaying cultural and humanities collections from different dynasties, so chronicles become the most direct way to narrative. However, it is challenging to generate resonance for visitors who did not attend to these cultural backgrounds.

In addition, most museums in China need to reflect the characteristics of national architecture and pursue their monumental significance, such as military museums or revolutionary history museums after the founding of the country. Some old buildings or ancient buildings converted into museums occupy a large proportion. The development of museum architecture in China has its own characteristics and needs, which are different from those of museum construction in the Baoying Entertainment countries. Therefore, the architect's discourse and language of expression needs to be transformed according to the nature of the museum.

As was discussed in Chapter 4, plenty of books and papers have been published which examine the relationship between linguistic-semiotic theory and architectural language. Based on this theoretical framework, many architects have practised the metaphor approach to deliver their design concept. The metaphorical expression has already become an effective way to communicate the meaning of architecture itself—especially the museum architecture, which contains a full cultural attribution.

In general, the architects embodied the architectural concept and intention of the museum in the architectural form employing metaphor and abstraction approaches to

show the cultural and social influences of the building and to arouse the resonance and identity of visitors. For example, the Suzhou Museum (Figure 5.1), designed by I.M. Pei, reflects the exploration of Chinese gardens. The geometric roof is an abstract product of the traditional Chinese roof, and the white wall of the building also highlights the character of the South buildings. The whole museum has been designed to echo the surrounding gardens.

Similarly, the Jean-Marie Tjibaou Cultural Centre (Figure 5.1), designed by Renzo Piano, is also inspired by the architectural shape of the local village. The symbols of traditional sheds have been extracted to express the continuity with the texture of the surroundings. It is no secret that architects pay more attention to the connection between the building itself and its social context. The metaphor approach is also adapted to generate a dialogue with surrounding cultures and environments.



Figure 5.1 The Suzhou Museum and The Jean-Marie Tjibaou Cultural Centre[80]

However, apart from the exterior social context, the meaning of museum architecture is also influenced to a great extent by museum content, as the architecture is a part of museum content to provide a place for cultural communication and exchange. The core of the museum is the interior content, which can contribute to reducing cultural

[80] Source from website: https://www.archdaily.com/894202/ad-classics-suzhou-museum-im-pei-plus-pei-partnership-architects & https://www.inexhibit.com/mymuseum/the-jean-marie-tjibaou-cultural-center-by-renzo-piano/. Accessed date: 2nd Oct, 2020.

distance. The building itself is a container, not just a landmark or a sculpture. So, the question is how to establish a connection between museum content and spatial language.

The conceptual metaphor theory of cognitive theory constitutes a new position between museum contents and the architectural language of the museum. Compared to the *signifier* of the architectural language on the expression level (E), the *signified* architectural language emphasises the content level (C). In general, the *symbolic* meaning of a building conveyed through metaphorical methods is related to its design philosophy from different perspectives. It becomes a way to tell the story of the building within the social and cultural context. The empirical evidence of the metaphorical expression of spatial language, based on the narrative context and its effects on visitors in museums, is scarce. In other words, the relationship between the museum content and architectural language was ignored. It leads to the uniformity of the museum's content and a lack of context for intercultural communication. And so, similar to the expression of architectural form, the metaphorical expression also can become a way to show the connotation of the museum content to the audiences, rather than only delivering the architect's self-creations and imaginations. Hence, it is an effective way to tell the stories of intercultural countries through museums and visitors to cultural-historical museums in B&R.

This chapter will mainly explore the metaphorical expression of architect's discourse based on the narrative context inside the museum. More specifically, the context of the *conceptual metaphor* can be classified from two perspectives. On the one side, it is the general context from the social and cultural backgrounds as *macro-social context*. On the other side, it is the narrative context inside the museum as the *micro-museum context*. And finally, the framework of narrative-oriented metaphor is expected to be established at the end. This chapter will discuss the generation of narrative-oriented metaphor via architect's discourse from three aspects:

- The basement of metaphorical expression of architectural language in the museum, which is the narrative context;
- The framework of narrative-oriented metaphor;

- The measure factors that show the impacts of narrative-oriented metaphor on visitor's cognition.

For museums in B&R, it should avoid the simple chronological narrative structure and treat the museum as an entire narrative. Museums are no longer seen as situated frameworks but places for visitor's interaction and exchange. The building needs to reflect and shape the museum content to generate a context for visitor's cognition and perception. This chapter will illustrate how narrative-oriented metaphor works.

5.1 The premise of the narrative-oriented design

5.1.1 The influences of architect's discourse

Back to the research question, the essence of the research purpose is to explore how cultural-historical museums communicate to various visitors under the B&R background. The author claims that it contains two aspects from the architect's discourse:

- To create a cross-cultural contact zone to enhance the museum's cultural identity from the macro perspective;
- To provide accessibility for visitors through the narrative-oriented approach from inside-out to improve their cognition of museum content from the *micro-narrative context*.

According to Thomas A. Marcus, there are two kinds of museums as sites of visible knowledge. One is the "warehouse" of the Enlightenment, similar to the "cabinet of curiosity". It is a tradition that can be dissociated from its contents and usable for any objects in any sequence (Markus, 1993). The other is the "integration of the building with the displays", which has been shown up in the late twentieth century (Psarra, 2009, p. 161). During this period, the museum was in its infancy, and the architectural significance was not prominent. For example, both the British Museum and the Ashmolean Museum were established for the primary purpose of housing collections. Their buildings originated from the Greek Temple, which was the oldest form of the museum, rather than being based on abundant alternative architectural forms.

Until the rise of modern architecture, the museum had become a preferred type of public facility for architects, as it contained cultural connotations. The museum was no longer a simple carrier of collections, and the museum building had also become the symptom of the museum's history. As Duncan Cameron (1972) claimed in his paper *The Museum: a Temple or the Forum*,[81] the museum has changed its status. Most of the museum has changed its identity from temple to forum to attract more public members, rather than limiting itself to highly-educated audiences. Whether the museum is a temple or a forum, the expression of architectural language is clearly different. The temple type represents the cultural authority to preserve and exhibit humanities objects. On the contrary, the forum refers to the community, sharing stories among different groups and establishing connections between people.

From the perspective of the exhibition narrative, it means putting items in the proper order. Usually, the interpretation process begins with curators. They create stories for the objects that start with scripted texts. Then, they fill in the building with exhibits, lights, media equipment and other display technologies to complete the whole story. After that, visitors reinterpret the stories based on their pre-knowledge, experience and preferences. Thus, the museum building was designed to connect the exhibition only through the spatial order at the beginning. The "narrative" means the exhibition organisation and display and has no relevance to the architectural language.

Indeed, the museum is quite different from other public buildings. Focusing on the points of explaining, understanding and describing, the museum's narrative, therefore, is not only the content of the narrated stories or the way visitors interpret them. It also means the way it is structured and displayed as a spatial practice to the audience by an authorial entity, a writer, an architect or a curator. Hereinto, museum architecture has a role in displaying, interpreting, and explaining objects inside as the physical container, but it is not limited to a container.

[81] It has been discussed in Duncan Cameron's paper that the social needs have influenced the museum's development. Most museums have changed their identity from temple to forum to attract more members of the public rather than limiting themselves to highly-educated audiences.

5.1.2 The relationship between museum building and objects

Many scholars have studied the concept of narrative in their fields. The way narratives are constructed in the museum and the way museum space as the syntactical expression has been explored by scholars (Bennett, 1995; Psarra, 2009; Macleod et al., 2012). According to Sophia Psarra's book *Architecture and Narrative: The Formation of Space and Cultural Meaning*, the meaning of architecture is expressed through its "spaces, material, social relationship and the cultural purpose" *(*Psarra, 2009. p.1). With roots in the Latin verb "narrate" (Coates, 2012, p. 14), a narrative organises things in a sequence recorded by the "narrator". So Psarra argues that a story needs a writer/narrator and a reader in the same way that architecture needs an architect and a visitor/viewer (Psarra, 2009, p. 2). The form of narration is claimed from "conceptual properties, perceptual experience and organisation of the cultural message" in the book (Psarra, 2009, p. 4). The museum spatial language narration has also gone through a period of development, from focusing on the function of space initially to focus on the relationship between space, exhibits and visitors, and nowadays, it focuses on the shaping of the exhibition atmosphere.

Since the nineteenth century, the museums have shifted from objects-orientated to visitors-orientated, so the researchers began to explore the relationship between the museum building and objects. Psarra analyses the relationship between spatial layouts and the object's organisation based on the visitor's route. She focuses on the architectural language on the *expression* level, especially the streamlined impacts on the visiting process. Similarly, Sophie Forgan concluded two types of spatial layouts as predominant in the museums, based on collection taxonomies. One was the *"library type"*, there are several sections around a central open space, and the other was the different sections ranged along an axis with controlled circulation (Forgan, 1994, pp. 144-145).

Besides, other researchers also focus on the relationship between visitor's movements and spatial layouts of the museum. Duncan claims that the visiting experience is ritual walking (Duncan, 1995). Her opinion had influenced many other studies between spatial layouts and visitor's movements. According to Kali and Huang Hsu, the meaning of museum space is walking organisation and bodily encounters, which can

be simulated through space syntax (see in section 3.3.2). However, the space syntax is a method of quantifying spatial orders, and it is limited to the two-dimensional plane when it comes to analysing spatial sequences of a museum. The narrative context is the expression of a three-dimensional level. It is not only limited to the spatial layouts but also represents the core idea of the narrative implied by the architectural language inside the museum, which becomes the spatial narrative.

5.1.3 The concept of spatial narrative

The spatial narrative is too broad a concept to define. For example, a shopping mall tells the story of consumerism and entertainment, and a residential district tells community harmony. All of these can be treated as a spatial narrative. In terms of the museum, the display of objects shapes the museum space; simultaneously, the spatial organisation influences the object's stories and meanings. Although narratology has been researched from various perspectives, there still exists a gap between architectural (spatial) language and object's narratives of museums. For the architect's discourse, it is not only the expressed function of a building itself via physical elements but also the approach to construct a structural context to communicate the narrative to visitors from different cultural backgrounds. Therefore, based on the conceptual metaphor theory, the author claims that the discourses and stories of the exhibition and the architecture form the spatial narrative.

The spatial narrative has appeared many times in this study. It is separated from the concept of object's narratives. The stories and their existing area created by curators are defined as *object's narratives* in this research, and there is a corresponding *spatial narrative*. Combining the narrative form, such as the colour, light, and other physical elements that visitors can perceive, the narrative context is completed.

The object's narratives are different from the narrative architecture because it is based on the interpretation of the object's fact and truth at the beginning of the design stage. In general, the exhibition in texts creates a narrative structure for the items to improve visitor's perception. Most of the time, an exhibition is created through arrangements of objects in a specific sequence or classification framework without the influences of its container – the meaning of architectural language. Therefore, architects only take responsibility to divide and order different functional areas. It emphasises the

functional utilisation of museum spaces instead of conveying information. The author claims the symbolisation of exhibits and space, respectively. And their *signified* part, which is the implicit narrative (cultural connotations of the whole museum), can be established within a narrative context. The architects need to find an expression approach to encode these two parts.

To conclude, the narrative strategy of the museum does not only adopt the literary narrative structure to sort the exhibits, rather than providing an overall narrative context. Even a bowl or a spoon can become a symbol of civilised society and express the way humans lived in the past. For example, it can tell of a social conversation that brought upper-class people together, or it can convey a family story of a lovely afternoon tea. The meaning of this "bowl and spoon" sign will be different within a specific context. Of course, architectural language, and its *signified*, will be different from these two contexts.

Therefore, the author believes that cultural-historical museums in B&R should become a place of intercultural dialogue. The "dialogue" mainly contains two levels of meaning. Firstly, cultural encounters happen in the museums, which include intercultural objects and different groups of visitors. It provides an opportunity for visitors to contact other cultures and people. Secondly, the architectural space of the museum breaks through the traditional permutation and organisation on the *expression* level. It becomes an integral part of the narrative context on a three-dimensional level. Like the symbol of architectural form, the spatial language can also become the symbol of the narrative context and offer accessibility for both visitors and objects. Thus, the narrative context is defined as the premise for metaphor. Only in the specific context, the meaning of spatial language can be valid. Therefore, the following section places emphasis on how narrative context is generated and the way it connects the objects through spatial language.

5.2 The framework of narrative-oriented metaphor

Although the narrative is accepted in the museum field as storytelling, this study still claims that it contains the following implications:

1. Firstly, it represents to show the facts or scientific explorations of the objects on display;
2. Secondly, it also contains the stories created by the curators or designers; the narrative here refers to the logical storyline to organise the plots;
3. Except for the facts or stories organised through spatial sequences, the narrative also proposed a method to explore the connotations and meanings behind them. It is not only how the stories are told or interpreted, based on the exhibition script, but also a spatial practice to convey the connotation's meaning, combining the idea of the object's display with the spatial language of museum architecture.

Based on linguistic and semiotic theory, the analysis of human communication through words, objects, or other types has offered ways to understand the links between things in a different context (Hawkes, 2003). The spatial narrative will be examined through the symbolisation of the objects and architectural language.

5.2.1 The symbolisation of the object's language

5.2.1.1 Definition of object's narratives

The object's narratives[82] are the way to tell the stories of exhibits entity in the cultural-historical museums. It refers to not only the object's facts but also the organised stories created by curators. When museums of culture and history need to display historical events rather than just their collections, the narrative becomes a natural display.

At present, the museums have changed the way to communicate with visitors that focus the denotative meaning (Harris, 2015). Previously, the curators need to show the authority and the authenticity of the exhibition through various objects, which denote its self-contained meaning. Generally, the exhibits are displayed in three ways:

[82] The objects in this study means the cultural evidence and entities. On the one hand, it includes those tangible cultural heritages contains historical information. On the other hand, it also refers to those human artefacts, social phenomenon and intangible cultural heritages.

- The *curiosity of the cabinets* tells the stories based on the initial classification of collections between artefacts and natural objects.
- Chronological order becomes the primary method for historical museums to show their collections.
- Longitudinal layering display is not merely a chronological order but analysis and categorisation based on the development of geology and theory of evolution.

Traditional objects-orientated displays emphasise conveying the facts or truth of entities. Hence, the timeline becomes the primary basis for supporting the exhibitions. However, the museums can not just illustrate an exhibit between itself and its denotation nowadays due to the multiple contexts from visitors, architecture and society. Therefore, the narrative is applied to the museum exhibition. The concept of narration in the exhibition contains different situations. It means use exhibits to tell stories, which can be combined with other methods (such as labels, graphics and audio tours) to convey sufficient information.

Moreover, the exhibition's narrative can also refer to the framework and content of the exhibition, and it can be transmitted through a core idea. Different from the idea of "storytelling", the narrative contains two aspects: story and discourse. The narrative becomes an attribute for museum content, which organise a story has different narrative factors. A single object is the smallest unite in a narrative exhibition. Each object or a group of objects represents a different plot or story; however, they must be subordinated to the overall narrative structure and theme.

Jean Davallon defined objects in museums as a communication system, and he said, "Musealia can be considered less as things (from the point of view of their physical reality) than as language beings (they are defined, recognised as worthy of being safeguarded and displayed) and as supports of social practices (they are collected, catalogued, displayed etc.)".[83]According to Davallon, the objects can be treated as a semiotic system. The object's narratives are a symbolisation process of the objects.

[83] Desvallées, André. Mairesse, François. Key Concepts of Museology[online resource]. Paris: Armand Colin. 2010, p.63.

If the narrative of objects is defined as a semiotic expression, it contains two layers of meaning. The first layer is the *signifier* meaning, which refers to the facts and truth of an entity according to professional research. The second layer is the *signified* meaning, which means the object's stories are narrated based on cultural values. The narrative of the exhibits is the transmission of the social knowledge system through narrative structure and organisation. Hence, the object's narratives represent not only the facts or truth of exhibits themselves but also the value and standpoint of the whole museum. Thus, once the objects are selected to be displayed, their meanings become more complicated than facts or truth. In turn, the objects interact with the space they are located, which is why they focus on the cultural significance between space and collection display.

5.2.1.2 The discourse of object's narratives on the *expression* plane

Generally speaking, the object's narratives are defined as storytelling. Storytelling is an innate human ability. Long before writing, oral myths existed. In the beginning, humans recorded the mysteries on walls and shaped them as stories. Nowadays, people would not be satisfied with the oral tradition or painting on a wall. So the historical and meaningful objects are investigated, explored and protected by professional researchers, then they are shown to the public within unique places such as museums and galleries. The curators used storylines to connect and organise the pieces of items as plots.

Once selected into museums, cultural artefacts are transformed into museum objects or tangible heritage, which contained the intangible meanings of cultural-historical memories. Objects are the mediums that record and contain humans' lives from generation to generation. They are the information source for human activities, from our ancestors to the present, as was defined in *Key Concepts of Museology*:

> A **museum object** is something which is **musealised**; a thing can be defined as any kind of reality in general. The expression "museum object" could almost be a pleonasm insofar as the museum is not only the place which shelters objects,

> but also a place with **the principal mission of transforming things into objects**.[84]

As Davallon argued, the "musealia" can be considered as language beings and supports social practices instead of the thing. On the one hand, objects are similar to signs and words in speech. On the other hand, objects are not merely signed as they can be perceived by human senses (Desvallées and Mairesse, 2010). Once a museum object is "musealised", or symbolised, the item itself not only represents its functional meanings but also contain the superimposed cultural values of perceptual or conceptual levels in the particular context of museums. For example, the objects in the cultural-historical museums along the Silk Roads are collected from different regions, including the artefacts used by ancients representing their daily lives and technologies, beliefs and religions, ideas and arts. They also symbolised the cultural, political and social significance of the time in which they emerged. However, Jacques Hainard mentioned that the objects "take on meaning only when placed in context."[85] In other words, each object has its superimposed meaning relating to its context when it is placed in an exhibition that can be interpreted in diversity by audiences with different cultural backgrounds. Therefore, the *signifier* of an object is an inherent attribute that represents its facts or truth and an element of narrative discourse.

5.2.1.3 The story of object's narratives on the *content* plane

Each object contains its original meaning – the truth of scientific knowledge behind the item. The additional significance was expressed according to its context. Once an exhibit is displayed in a museum, it becomes a part of the museum narrative. As Hooper-Greenhill said,

> Objects can have meanings that are deliberately imposed upon them through the context in which they are placed, and through an anticipation of how they will be

[84] Desvallées, André. Mairesse, François. Key Concepts of Museology[online resource]. Paris: Armand Colin. 2010, p.61.

[85] Ibid., p.64.

> encountered... acting as symbols, objects link unconscious responses to real issues or relationships in society. (Hooper-Greenhill, 2000, p. 110)

The object in the museum is a rational correspondence between its fact and its denotation meaning. The denotations are the primary that is delivered to audiences. Take the Nereid Monument in the British Museum as an example. The truth is the Nereid Monument came from a mausoleum in Lycia (in modern-day Northwest Turkey), which was discovered by the British archaeologist and explorer Charles Fellows. It represents the tomb's history that resembled a Greek temple of the Ionic order. At the same time, it involves the process of the monument being symbolised. It is located in a different context that influences its cultural meaning – it becomes a part of Greek culture among various cultures in the British Museum. At the same time, it makes space also become part of the Greek context. Therefore, the story of an exhibit depends on its context in addition to its facts.

As the author mentioned in Chapter 5.1, the narrative here is not only about displaying the facts or truths of objects but to show how they are interpreted. From the perspective of exhibition design, the narrative refers to the organisation and arrangement of objects and their related information in an ordered sequence. And the process shapes different plots, achieving more complex meanings than individual exhibits (Wolff et al., 2012). Thus, instead of simply putting objects in space, storytelling is the organisation/display of objects logically. For example, the form of objects on display in a chronological or geographic order generates a storyline to organise the objects collectively. Or it is based on the hierarchical relationship to deliver the sublimation of the theme. In this way, the object's interpretations can be effectively perceived by audiences through interactive activities such as viewing, measuring, photographing or even touching the objects on display.

The previous way of displaying objects in a museum was to focus only on themselves and their independent meaning (objects-orientated) that separated from its context and backgrounds of audiences (Harris, 2015). On the contrary, most museums at present not only pay attention to the scope of their collections but also focus on the reflection and perception based on their objects and the various perspectives of interpretation that the museum can offer (Bodo et al., 2009).

Jennifer Harris took an example in her paper *Metaphor in Social History Museum* – a green stone in the Museum of New Zealand Te Papa Tongarewa, Wellington. It was a pounamu in the Māori language, a gift from the Kāi Tahu tribe (Harris, 2015). The stone represents the firm foundation of a relationship. Visitors can rub the stone with their hands to reveal its beauty. The visitors working together combine the fact that is conveying national unity, so the visitors rub the stone the way people join together for a united nation. The author argued that this silent bodily process is indeed a metaphoric action. The greenstone and visitor's rubbing as a community is the *vehicle,* while national unity is the *target.* The sign of this greenstone connotes the museum's generating the symbol of national unity, except for its self-truth. Therefore, it is crucial to clarify the original meaning of an object and the connotation meaning at the moment it enters the museum. All kinds of narrative logic have a core output of stories. The museum's ability to demonstrate narrative and reasoning makes it a platform to reflect knowledge, belief, values. Correspondingly, the museum site, the building, interior space and the surrounding environment become new strategies for social and narrative contexts that need to be developed based on the museum's story.

5.2.2 The symbolisation of spatial language

In the spatial narrative, unlike films or novels, the audience no longer receives the narration from the outside but experience it through the movement inside the spatial entity. Space becomes the medium (the carrier of exhibits narrative) that influences narrative plots (for example, beginning, development, climax and ending) and spatial behaviour model. Therefore, the studies related to space and exhibition collections usually focus on the relationship between narrative structure and spatial sequences. The spatial design of the museum building has explored the relationship between spatial orders and the conveying of information (Tzortzi, 2007; Tzortzi, 2015a; Tzortzi, 2015b), just as the relationship between paragraphs in literature. It aims to influence visitor's movements and activities in the museum space to stimulate their perceptions and interactions. The spatial organisation and combination of the exhibition area can be divided into the following types.

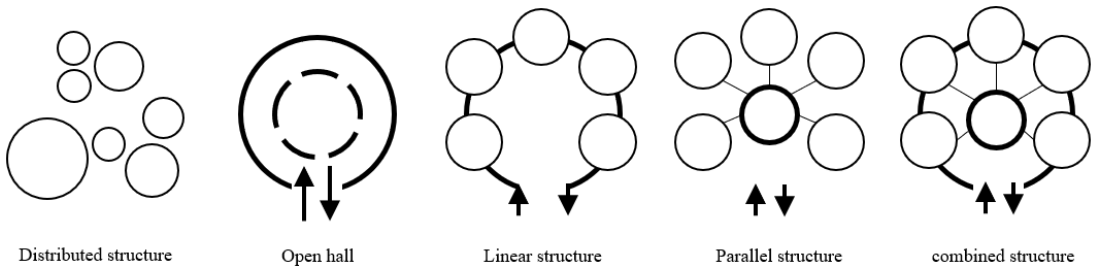


Figure 5.2 The primary spatial organisation and combination of museum space

(source from Li, Wei & He, 2013, p.358, edited by the author)

However, these types all refer to the spatial layouts on the horizontal level. The whole exhibition in the cultural-historical museums is a process of meaning construction, so space constructs context for reconstructing the narrative from a three-dimensional perspective. The meaning of architectural language is influenced by different narrative contexts, including object's narratives.[86] Thus, the spatial narrative here is not only a broad concept of the relationship between spatial order and narrative plots but also symbolised spatial language that closely relates to the story of the object's narratives. Correspondingly, it also can be expressed from discourse and story level. The spatial narrative can be illustrated in Figure 5.3.

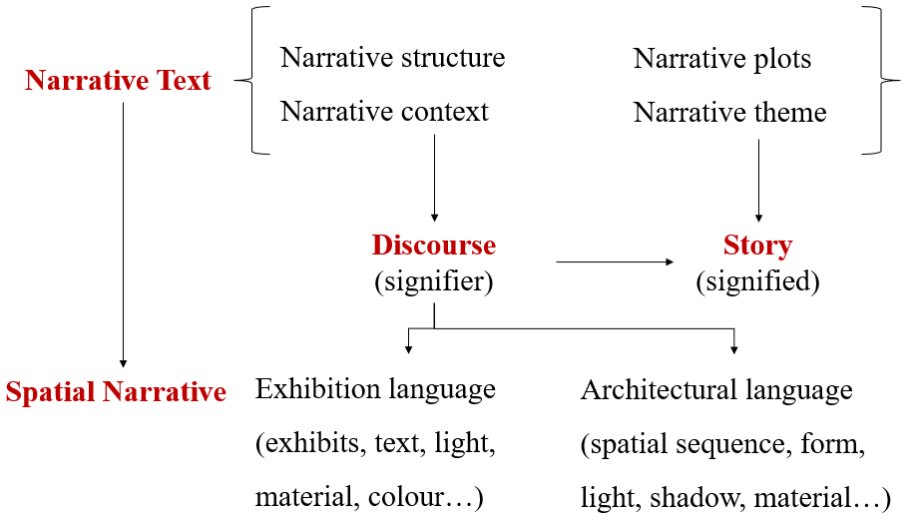


Figure 5.3 The discourse and story of spatial narrative (source: the author)

[86] It should be noted that it does not make sence to isolate the symbols such as walls, stairs, and windows, the connotations can only generate when they combined in a specific narrative context.

The *Key Concepts of Museology* already defined the architect's discourse for a museum is to design "the *envelope* around the collections, the staff and the public" (Desvallées and Mairesse, 2010, p. 24). The handbook staked out the conflict between the ambitions of architects and the people connected with the preservation and displaying of collections. The architecture was described as "a beautiful object over the excellent tool" (Ibid., p.25). The *envelope* means the objects are wrap in the building's skin, which also points out the disconnection between museum architecture and museum content.

Museum architecture is the medium (whether a "conduit" or "container"), and the "medium" here refers to the "means" by which something is communicated, expressed or is part of the environment. The museum architecture contains two levels of meaning. It can present the spatial practice of architecture with large object's narratives from museum studies. It can also refer to the exterior form of the building itself from architectural reviews. However, the research attaches a new requirement for museum architecture, which is not only a "container" or envelope of objects but also becomes a part of the entire narrative. Therefore, the spatial narrative refers to the spatial layouts derived from the two-dimensional plane and connects to the core idea of cultural values from a three-dimensional context. It cooperates with the curators to express the stories of objects, stimulate the cross-cultural dialogue between objects/visitors, and induce the visitor's emotional resonance and conceptual comprehension.

5.2.2.1 The discourse of spatial narrative on the *expression* plane

According to Sophia Psarra, "narrative" is often connected with a story, a sequence of space and time (Psarra, 2009), which defines the narrative as a property. It provides a way to explore how the narrative is worked in museums. In other words, this mutuality and inclusive spatial practice will alleviate physical, intellectual and cultural barriers for audiences to access museums. As with the spatial practice, the narrative is also regarded as structure, a particular way of combining parts to make a whole. It is "the activity of selecting, arranging and rendering story material in order to achieve specific time-bound effects on a perceiver" (Bordwell, 1988, p. xi), or "the semiotic understanding of language" (Coates, 2012, p. 11). Thus, both space and objects can be

treated as different “sign” systems, which can be created and structured by the designer and interpreted by the reader.

Two factors, in general, decide the discourse of spatial narrative. First of all, space needs to satisfy the physical condition of displaying collections – for example, the temperature, the humidity, the light intensity and the spatial forms. It provides environmental protection for exhibits and a comfortable viewing environment via colour, material and artificial light.

Secondly, the spatial narrative is determined by the storyline. For example, the museum staffs provide the requirements and object’s information of the museum contents. And then, the designers compile it into the text and finish the arrangements of the exhibition. The spatial sequence shows an essential relationship with the visitor’s movements. It also connects with the story of the object’s narratives. Hence, spatial narrative can also be related to the discourse and story of the narrative.

5.2.2.2 The story of spatial narrative on the *content* plane

The spatial narrative not only guides visitor’s movements at the functional level but offers the audience the opportunity to communicate and perceive with the societies and cultures, from the past to the future. Generally speaking, the narrative of museum design is determined by the exhibition text. The spatial narrative is easily understood as the specialization of the text. But in fact, it is a unilateral effect of the spatial order on the object’s narratives.

Meanwhile, the architects, urban planners, and museologists focused on the symbolic meaning of museums in the urban context. To cater to international interests, governments seek highly reputable architects to build museums. Numerous cities hope to build museums to achieve the same effects as The Guggenheim Museum, Bilbao. It became the new language and the new symbol of museum architecture. The museum becomes an iconic landmark rather than a place for exhibiting and communicating collections. It pushed the museum architecture forward to another step, which branded itself as a commodity or production of the city. To be honest, there is a demand for museums that have similar effects as Bilbao Guggenheim to activate the towns along the Silk Roads. However, the design of the vast open spaces presents a potential

conflict with the exhibits. Besides, excessive symbolic architecture may cause the public's antipathy under the influences of cultural distance. Therefore, it is an effective communication method to start from the cultural narrative on behalf of themselves.

With the development of modelling possibilities, the architecture enters into an era (post-modern) of new shapes and forms from a three-dimensional scale. Moreover, contemporary museum architecture emphasises the relationship with its urban and cultural context. This phenomenon stimulates many debates about the design of museums. It should be noted that this study does not deny these design concepts, and each of them shows its unique features. As a museum building, they are milestones. The iconic buildings may provide an attractive image, but the context of the museum space for the exhibition narrative may be sacrificed. Besides, most of the time, people may be attracted by the architectural appearance of the museum, but it is challenging to remember the space or object's narrative inside.

Furthermore, non-architects cannot read architectural manifestations because they cannot understand the codes of architecture. The visitors prefer to make analogies of the form with familiar things. From the architect's perspective, the metaphor stands for the possibility of their concept. Architecture speaks for itself through symbols, and each architect has her/his conception and spiritual belief of the world and the social problem. However, the interpretation of the architectural analogy sometimes is different from the intention of the architect's discourse.

Therefore, this research claims that the narrative attribute can also be attached to the spatial language and expressed through the metaphor approach. It emphasises a reciprocal relationship between spatial discourse and the object's narratives. On the one hand, the spatial language shapes a meaningful place within its narrative context. On the other hand, according to Susanna Sirefman, the narrative of the objects that a museum contains is close to its physical condition – the architecture (Sirefman, 1999). As a result, it provides a more interactive and accessible experience for visitors from different cultural backgrounds.

5.2.2.3 The narrative context refers to the spatial narrative

Over the last 20 years, there has been a shift in the focus on current research about museums. The curators have concentrated on the "interactive" experience of audiences, the organisation of the display, and the interaction with their audiences (Forgan, 1994). This shift means that the museums no longer exist as educational institutions but also the places of social and communicational experience. Primarily, the museums in the background of B&R should provide the stages for multicultural convergence, based on a rich history and inclusive cultures of "Silk Roads".

Nowadays, the role of museum architecture is getting more and more complex. The cultural container, the public space of entertainment and social experience, the iconic landmark for urban regeneration are all identities for museum architecture. As Sirefman argued, museum architecture's basic requirements are mainly reflected in two aspects. Firstly, the museum architecture is designed to store and display the collections, control the activities and movements of visitors and staff, operate the ventilation, light and electricity of interior space. Secondly, the museum architecture needs to consider the volume, form, material, and meaningful metaphor relating to the local culture. Sirefman tried to explore the balance between interior space and exterior façade, the inside and outside (Sirefman, 1999). In the Guggenheim New York, the building's façade spirals upward with ramps inside, establishing a connection between the internal and external language. However, it still focused on the building itself rather than the relationship with museum contents. In the author's point of view, the narrative of objects as a spatial practice is the chance to identify and encounter the local culture with other cultures, and this is the real meaning of museums along the Silk Roads.

The architect's imagination and creativity produce the metaphor to deliver their concepts, values as the meaning of architecture. It is the architect's subjective concept in the design stage. However, the architecture, as part of the museum narrative, the sense of museum architecture, is not limited to external social context, but the object's narratives inside. If they can be expressed through the metaphor approach, these two aspects of metaphorical expression affect each other. In other words, to achieve the meaning of museum buildings from the inside out, the object's narratives are the core

influencing factor. The differences between narrative-oriented museums and museum buildings as wrap skin can be compared (Figure 5.4).

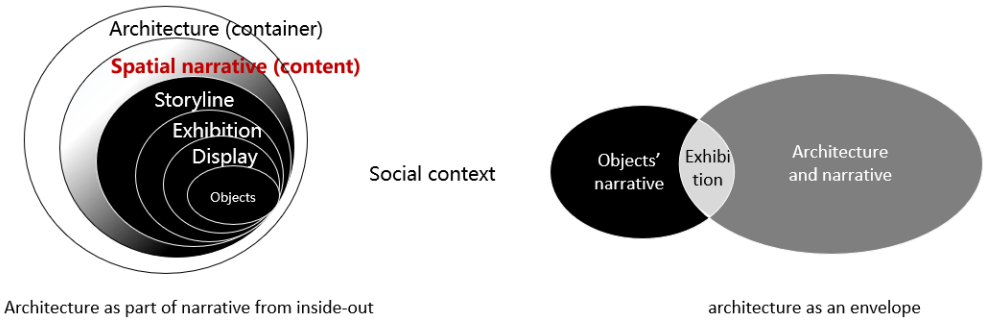


Figure 5.4 The comparison of narrative expression (source: author)

What is more, the spatial discourse not only impacts the architectural manifestation such as form, function and material but also becomes the balance between social context and interior narrative context. Thus, the "metaphor" is more than an *analogy symbol*. And it is the deep layer of cultural meaning that audiences can perceive.

5.2.3 The metaphorical expression of spatial narrative

5.2.3.1 The basic framework of narrative-oriented metaphor

Based on the conceptual metaphor theory, the way to acquire the meaning of new concepts in the human brain is by associating them with the existed conceptual framework. It forms a parallel relationship between human ideas and new concepts. In other words, the conceptual framework has already transformed what we already know to be the *signified* of the original sign. And then it superimposed with the *signifier of the new sign* into the *signified meaning of the new sign* (see in section 4.4.2 Roland Barthes's second-order semiotic system). Thus, the *signifier* of the new sign conveys the new concepts. Appropriately, this new signified meaning goes beyond the original conceptual framework. Its existence has far-reaching practical significance only when it breaks through the initial framework and reaches a different domain. As Richards argued in the *Philosophy of Rhetoric*, "when we use a metaphor, we have two thoughts of different things active together and supported by a single word, phrase, whose meaning is a resultant of their interaction" (Glicksohn and Goodblatt, 1993, p. 84). The concepts in two different domains can integrate different mental spaces.

After clarifying the nature of spatial narrative, the essential issue is how to express it, based on Roland Barthes's theory (explained in Table 4.1).

First-order	Signifier	Signified	Second signified
Second-order	Sign of first-order & Second signifier		

This principle can be taken as the basis of the spatial narrative. The *signifier* refers to the object's entities and spatial discourse on the expression plane, while the *signified* includes the object's meaning-making and spatial connotations on the content plane. These are all principles of the spatial narrative, which contribute to generating a narrative context (Table 5.1).

Table 5.1 The theoretical framework of narrative-oriented metaphor based on Roland Barthes's semiotic system (source: author)

	Signifier		Signified		
First-order	Objects in museums	Expression of spatial language (material, light, decoration and other elements)	Object's meaning-making	Function, configuration, cultural values and social identities	Second-order signified (story of the narrative)
Second-order	Second-order *signifier* (objects' + spatial discourse of narrative)				

From the perspective of architectural art, form and spatial expression are the two essential aspects of museum architecture. The streamline and spatial configuration are two crucial elements in terms of the functional requirements, and both of these perspectives are embodied through architectural language on the expression level. The question is how to express the connection between objects and architectural language. Because space is the direct carrier of the object's narratives, thus, the narrative should be endowed with spatial language as an attribute. Hence, similar to the metaphorical

expression of the narrative of architecture, metaphor can become an approach to convey the meaning of the spatial language narrative. The narrative-oriented metaphor provides a strategy that can link the object's narratives to the spatial language. Compared to the metaphor in image schema, the multilayer of conceptual mapping of metaphor enables visitors to understand museum content and connect to their own experiences. Figure 5.5 shows the role of the metaphorical expression of spatial language based on narrative context. Unlike the analysis of the relationship between spatial layouts of objects and visitor's streamline, the potential narrative-oriented metaphor emphasises the balance between the spatial language and the object's narratives, representing the connections between the architect's discourse and the audience's experience.

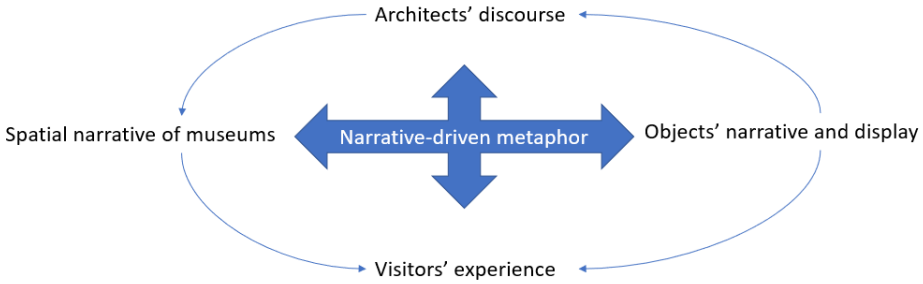


Figure 5.5 The role of narrative-oriented metaphor (source: author)

More specifically, if the architectural language can be treated as a text, each door or window of a building represents not only a single word of spatial language but also a sign composed of *signifier* and *signified*. That is to say, the spatial language narration also contains the expression level (signifier) of each element, and the connotation (signified) is meaning that is close to the object's narratives on the content level.

5.2.3.2 The explicit narrative – the discourse of spatial narrative

The spatial narrative can be analysed from the *expression* and *content* level, respectively, which are defined as an explicit narrative and implicit narrative (Figure 5.6). The explicit narrative is based on the expression form of the exhibition, which means the physical elements include colour, material, light and spatial form that visitors can visually perceive (*expression* plane). These elements need to satisfy both the exhibition conditions and a comfortable atmosphere for visitors. The implicit narrative refers to the connotation meaning on the *content plane*. It creates a narrative

context for both object's narratives and visitor experience – for example, the spatial form and configuration, the cultural or social value of the museum's core idea.

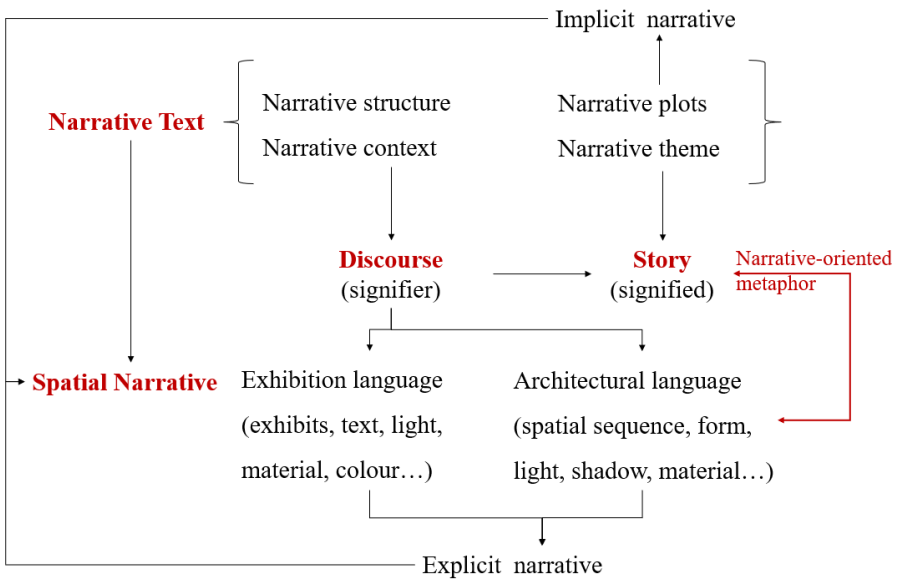


Figure 5.6 the implicit and explicit narrative (source: the author)

The basic requirements of the explicit narrative are the display of objects. The collection and exhibition need to satisfy the physical conditions to protect exhibits. As mentioned, the museum content mainly includes five parts, which are the *objects*, their *display* in the installation, and *exhibition* based on the *storyline* in each gallery. The galleries were organised within the space to generate the *narrative context*. In short, the spatial language is not only used to protect collections but provides a suitable context for visitor's psychological effects.

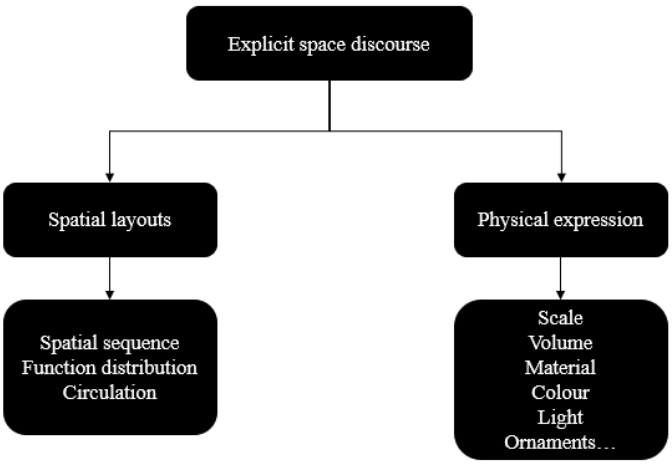


Figure 5.7 The explicit spatial discourse (source: author)

The explicit narrative of spatial language contains two aspects from the architectural perspective, which are spatial configuration and physical expression (Figure 5.7). The spatial configuration impacts visitor's movements and behaviours in the museums, while the physical expression has influenced visitor's perceptions of the exhibition. Therefore, the architect's discourse is part of constructing the context for visitor's to interpret.

5.2.3.3 The implicit narrative – the story of spatial narrative

The implicit narrative of architectural discourse refers to the cultural meanings of spatial language and object's narratives. The implied narrative shows the cultural value, which can be conveyed metaphorically. The metaphorical expression of architectural language not only refers to the social and cultural backgrounds but also the core idea of the narrative inside (Figure 5.8). Hence, the influences between objects and space are bidirectional.

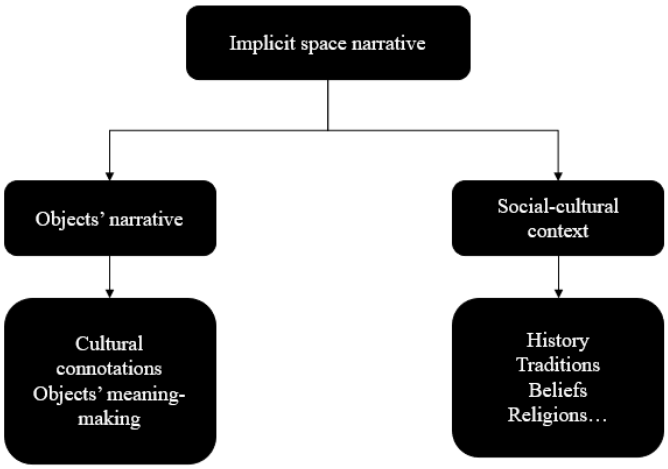


Figure 5.8 The implicit spatial narrative (source: author)

As mentioned, every single word or element of spatial language contains its signified meanings. The core idea of the museum content is conveyed by combining all the parts. Firstly, space is an integral part of the building. It faces the exhibits internally and connects with the social context externally. Secondly, the essence of the narrative design of a museum is to create a narrative context. It not only can establish an interpretation between designer and visitors but can improve visitor's cognition of cultural and social values. For example, cultural inclusion should be the core value of the cultural-historical museum along the Silk Roads. However, sometimes the museum

discussions of multicultural inclusion tend to become specific practices that aim at one or another broad social group, such as “Asians” or “Europeans”. The application of the narrative is used to describe common interests or views. For the diversity and uniqueness of cultural practices, such broad generalisations are problematic for understanding cultural and social inclusion.

The perception of conceptual mapping will be inevitably different from various cultural backgrounds. For example, the author noticed a video on YouTube. It said a black man attempted to take away an eighteenth-century artefact of the Indonesian island at the Louvre on 22nd October 2020. He claimed he was *“taking back what was stolen on behalf of the African people”* (YouTube, 2020). For other audiences in the Louvre, the exhibits not only display the local cultures of Indonesia but convey the diversity of the museum’s collection. It has shown the uniqueness of Indonesian cultures. Although such unethical behaviour is discouraged, it still shows visitor’s interpretation is variously based on their pre-knowledge and cultural backgrounds. Therefore, a museum narrative context needs to allow different interpretations.

In summary, the narrative-oriented metaphor provides a way of thinking contrary to the general design process. Because architecture is not only an envelope for objects, it offers a specific context that changes the meaning of the objects. When using metaphor to express the value or identity of the building, architects should not only project the external context or urban fabric onto the architectural language but also echo the museum’s narrative inside (Figure 5.9). The museum design is an encoding process by architects and decoding by visitors. On the one side, the museum is a container that carries the cultural values from the social backgrounds. On the other side, the museum is a symbolised system of spatial narrative, which consists of objects and architectural narratives. The explicit narrative is the first-order to show the signifier, while the implicit narrative is the second-order to convey the core idea. The objects and architectural narratives can be divided into discourse (expression) and story (content) layers, respectively. The story can be established between them through their discourse layers metaphorically. This framework exemplifies how the framework of narrative-oriented metaphor works.

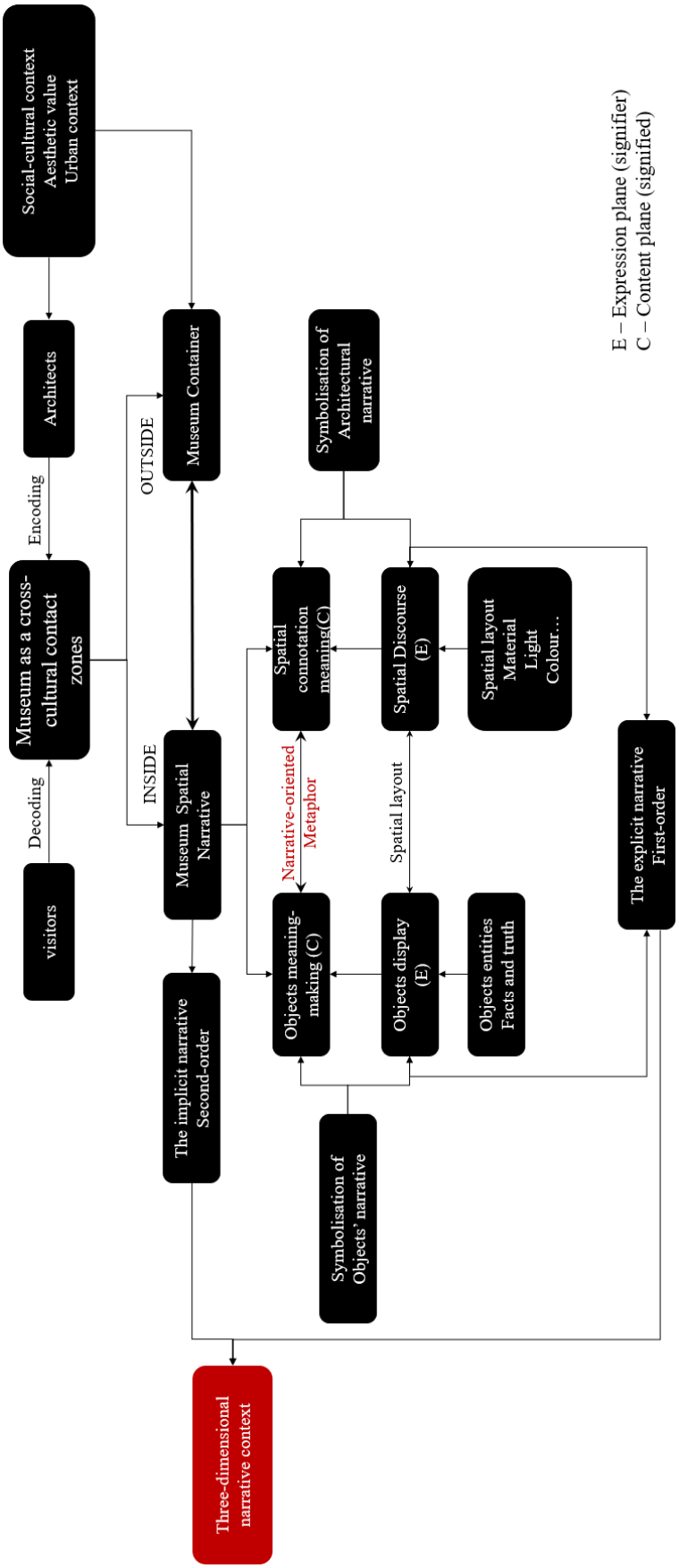


Figure 5.9 The relationship between museum container and content (source: author)

5.3 The impacts of narrative-oriented metaphor on visitor's cognition

5.3.1 A brief introduction to the museum learning model

The narrative-oriented design aims at improving the audience's understanding and cognition. So it is necessary to evaluate visitor's interpretation during their visiting process. Learning in a museum has always been a critical issue to examine visitor's experience, and it has been defined in many ways (Cook, 2007; Cohen and Heinecke, 2018). The essence of architecture is to create a continuous situation that stimulates the unique human experience through space, light and material and other discourse. From sensory perception to conceptual cognition, visitor's experience is another angle to measure museum design.

The theory of constructivist learning was introduced by George E. Hein (1998), who has completed in-depth research on museum education theory. Its emphasis is on the process of self-learning in the museum individually rather than the learning outcome. Figure 5.10 shows the different models based on his education theory.

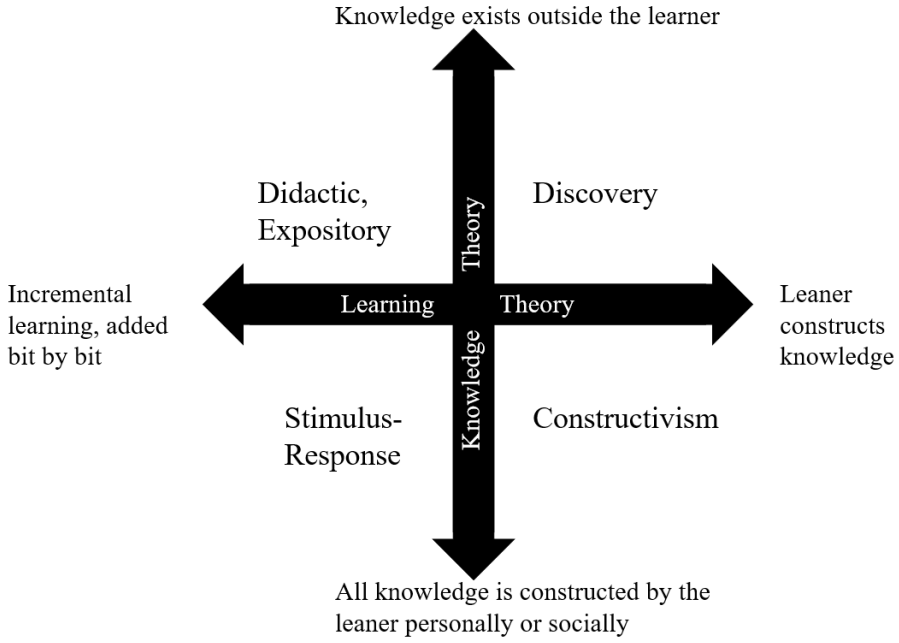


Figure 5.10 Education theories (Hein, 1998, p. 25)

Initially, the didactic expository or stimulus-response learning in museum education emphasises the truth of objects and the hierarchical arrangement (usually in a sequential line) of knowledge. It is a passive experience model in the museum at an

early time. The museum design generally begins with the learning and education model to examine what visitors can learn from the museum. The museum narrative is supposed to be only constructed through the display layout. The term *"organised walking"* was used by Bennett (Bennett, 1995, pp. 179-180) to reflect this learning mode. The visitor's learning experience is constructed on their movement in continuous spaces, as Hein said, "exhibitions that are sequential, with a clear beginning and end, and an intended order" (Hein, 1995, p. 27).

Constructivist learning encourages the visitor's active participation and connects to their own life experience instead of educating them on the facts or scientific truth. Also, it has no specific routes and allows visitors to perceive at their own pace. According to Falk and Dierking, visitor's free-choice learning in the museum is various, and it is influenced by *individual, physical and social context* (Falk and Dierking, 2000). This learning model has become popular in modern museum research. Based on the constructivist learning theory, the term "co-author" is proposed by Witcomb to refer to the active role of visitors during their visiting process. As Choi quoted, "Bataille's statement that the rooms and objects are only a container, the contents of which are formed by the visitor's" is a way to show the function of spatial arrangements (Choi, 1999). Lefebvre also proposed *social space* to illustrate the meaning of space added by users, not merely designers (Lefebvre, 1991). That is to say, the display method of the museum is no longer singular. It allows communicating with visitors through various approaches.

The visitor's *movement* contains two aspects. On the one hand, it refers to the tracing of the visitor's activities during their visiting process; on the other hand, it shows the behaviours influenced by the museum narrative. The former reflects the continuous nature of space. The latter reflects the visitor's interpretation of the spatial narrative. Generally speaking, *movement* is considered necessary for visitor's experience because of the default that perception of architecture is based on motion, either through the eye or body in space. Therefore, the visitor's conceptual understanding of the museum content through the museum building is established based on the physical movements.

5.3.2 Narrative-oriented learning

Similar to constructivist learning, narrative-oriented learning also encourages visitor's participation and constructive knowledge in the museum, and it has already been discussed in various fields (Manuela et al., 2009; Sitzia, 2016; Glover Frykman, 2009; Carter, 2018). Bruner (1986) proposed that human thoughts can be divided into two modes, which are *paradigmatic(logico-scientific)* and *narrative*.

> The *paradigmatic* attempts to fulfil the ideal of a formal, mathematical system of description and explanation… The imaginative application of the *narrative* mode leads instead to good stories, gripping drama, believable (though not necessarily "true") historical accounts. It deals in human or human-like intention and action and the vicissitudes and consequences that mark their course. (Bruner, 1986, pp. 12-13)

Today, many museums have recognised their role as educators and are making extensive use of narrative, or storytelling, as a tool for education, interpretation, and meaning-making. However, these theories are only applied to interior exhibition design by curators, not to establish the relationship between museum architecture and its content.

Indeed, designers need to pay attention to how information is presented because of how the museum narrative and interpretation profoundly influence visitor's ideas, knowledge and identities. According to David Herman, the cognitive narrative has a close relationship with the interpretation through various semiotics (Herman, 2000). Therefore, museum design is a process of coding the cultural identity into the exhibition and architectural discourse. The design of museum building is not a personal aspiration of the dedicated architect, and it has become a part of the explicit cultural identity. As the role of visitors has been changed from learner to participator, the museum building becomes a medium for them to communicate and interact with the object's narratives, and learning in museums is a combination of the cognitive and emotional processes.

Learning in the museum has changed from directly inculcating cultural meanings or values to encouraging their different interpretations. Unlike organised walking in chronological order, narrative-oriented learning focuses on the interaction between visitors, space and objects. The visitors move through the exhibitions and participate

actively instead of passively walk through them. In the book *The Culture of Education*, Bruner also points out the narrative has a significant role in visitor's construction and acquirement of knowledge, as humans are natural storytellers (Bruner, 1996). Hence, the narrative context consists of object's narratives, and spatial narrative has become a medium to encourage visitor's movements and interpretations (Figure 5.11). It contains both the narrative frameworks and contexts.

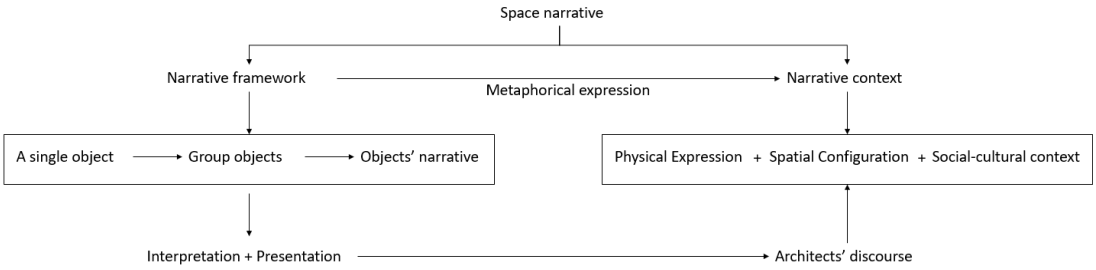


Figure 5.11 The narrative framework and context of a museum (source: author)

The narrative-oriented metaphor is a way to show the cultural connotation meanings of implicit narrative through architectural language. The reinterpretation process of narrative-oriented metaphor can be divided into three stages, based on the literal sense. Firstly, it is a process to recognise the context or conditions. Secondly, the visitors need to reconstruct the possible perception and interpretation of the physical space. The last stage is drawn from the perception of concrete physical space to the cognition of mental imaginations. According to this process, the visitor's interpretations of explicit narrative and implicit narrative contribute to understanding the core idea of the museum theme. The architect's discourse, hence, constructs a bridge between the physical discourse and stories.

5.3.3 The measure factors of visitor's cognition

5.3.3.1 The measure factors

With the key elements and theories above, this section will focus on the accessibilities of narrative-oriented metaphors. The word "accessibility" here means not only the bodily arrival, but also their conceptual cognition and interpretation of the narrative's core idea. Moreover, it allows them to measure the value of the museum content because it is an active process, and everyone has their own understanding. So what

museums do is create a narrative context to guide the visitors. They aim to enhance visitor's cultural, interpretation accessibility and emotional resonance.

Cultural accessibility

Cultural accessibility means the museum needs to consider its status in a multi-cultural environment. Under the challenge of "multi-cultural" circumstances, the museum architecture needs to take social, political and ethical issues into account while conveying symbolic meanings. The visitors can perceive the core idea of museum content, irrespective of the cultural backgrounds of the visitors. According to Douglas Davis (1990), in *The Museum Transformed: Design and Culture in the Post-Pompidou Age*, he asserted that "no building type can match the museum for symbolic or architectural importance" (Davis, 1990, p. 14). Cultural accessibility is influenced by the social context, including religion, politics, social habitats, and globalisation from the macro perspective. For example, museums such as the Museum of Contemporary Art Chicago, Pérez Art Museum Miami, have shown the symmetrical structure, the steps, and the dome that expresses the metaphor of Greek architectural form. However, this kind of metaphor may be too solemn, and it creates a statement that is daunting for visitors.

Moreover, as the author has repeatedly emphasised before, the visitor's understanding and cognition will be different because of their pre-knowledge and cultural backgrounds. As Relph claims(1976),

> for each setting and each person, there are a multiplicity of place identities reflecting different experiences and attitudes; these are moulded out of the common elements of appearance… through the changing interactions of direct observation with preconceptions. (Relph, 1976, p. 33)

Therefore, cultural accessibility is the balance between international and regional. For example, modernist architecture is easier to use and read but lacks cultural expression. In contrast, post-modern architecture has a particular expression in architectural language, but it is easy to symbolise and ignore museum content or challenge to read. Cultural accessibility means the architect's discourse may start from the core idea of the narrative. The architectural language is not only influenced by social context but has a close relationship with the inside exhibition. Therefore, the narrative-oriented

metaphor is an expressive way to encourage the audience's communication. The cultural accessibility in this research also means the possibility of "cultural encounters" in museums, which relates to the opportunities for objects from different cultures and audiences from different cultural backgrounds to meet each other.

Interpretation accessibility

As the museum's primary purpose is to convey information or knowledge, interpretation accessibility refers to the readability of the narrative discourse. The spatial narrative impacts the perception and cognition of visitors. The interpretation accessibility refers to more than just the captions and illustrations. It has a close relationship with the spatial discourse and the way the objects were interpreted.

The rhetoric theory defined the two factors of metaphor as *tenor* and *vehicle* based on analogy. In comparison, Barie Fez-Barringten (Fez-Barringten, 2012b) argues that the relationship between two elements is called *correlation* in his paper *Metaphor as an inference from the sign*. As Fez-Barringten said,

> Sign reasoning is used to infer the unknown from the known, to predict outcomes, to rely on the judgmental experts' authorities and to make the strange familiar.

Therefore the spatial discourse and objects' display is the source domain for visitors to understand the cultural values as the target domain.

Although the meaning of museum architecture was influenced by the social context and cultural identity from the macroscopic perspective, the spatial is also necessary to form a dialogue between visitors and objects. The architects code the meaning of museum content and encode it through architectural expression, which visitors will decode through their experience. Thus, the code of the museum story does not only offer an opportunity for architects to express their voice, but provides a narrative context for visitors to interpret and cognise the value of the museum and guides their imagination and initiative in learning.

Emotional resonance

Based on cultural accessibility and interpretation accessibility that significantly influences visitor's cognition, emotional resonance is another element that measures

whether a museum is focused on visitor's awareness and feelings. It is the harmony/symbiotic balance between the museum and visitors. The visitor could feel something familiar in the museum that arouses their emotional resonance, even though they did not acquire any exhibition information. The metaphor of spatial narrative should express a symbiotic relationship not only with its social context but also with its museum content inside. As Lumley said(1988),

> Significant artefacts are collected within museum architecture, not in a narrow sense of a particular building or institution, but as a potent social metaphor and as a means whereby societies represent their relationship to their own history and to that of other cultures. (Lumley, 1988, p. 2)

The emotional resonance helps establish a long-term influence on visitor's learning. It enhances visitor's understanding of the museum's core idea. For example, the Jewish Museum has shaped a narrative context through its architectural language, stimulating visitors to experience this history. Anyone who walks through the face-like iron plates covering the floor will remember this tortuous route.

5.3.3.2 The measure methods

Questionnaire

The questionnaire is a kind of evidence that belongs to quantitative research. A questionnaire consists of a series of questions to gather information related to research from selected respondents. Large groups of people were selected randomly. It can be a way to measure visitor's behaviour, attitudes, opinions, and understandings more quickly than other methods.

One of the most primary stages of the questionnaire is designing the questions. Usually, the questions are both open-ended and closed-ended. It is defined as understanding visitors' cognition, emotion, and behaviour (Hein, 1998). The open-ended question allows people to express their opinions personally, while the closed-ended question structures the answer by providing the options. The open-ended question can collect more in-depth answers from respondents. However, the author found out that most of the visitors prefer to do the closed-ended questions instead of expressing their own

words. Many books and papers have offered various opinions about how to design the survey. They can be summarised as follows:

- In terms of the wording of the questionnaire, the simpler, the better. The words used need to be accessible and straightforward and avoid technical terms or jargon. It also should avoid unclear or ambiguous meanings. Moreover, it is not necessary to require the respondents to answer every question.
- The questions should be asked gradually, from general to specific. The same topics should be grouped to make answering easier.

Each specific question relates to cognitive work, and the respondents are assumed to answer all of the questions in complex progress. They need to interpret the questions. Then, they need to respond to each question by searching their memories and then integrating the information to make a judgment. Finally, they select the most appropriate option offered by the question. However, a problem with questionnaires is that respondents may lie because most people want to present a positive image. Therefore, the investigator can pre-test the result after designing the questionnaire and make adjustments. The questionnaire design was similar for the two cases in this study.

1. The author reviewed the museum-related questionnaire and took the graduate school course of public engagement. It helps to figure out the purpose of the questionnaire and how to create effective questions.
2. The field study is necessary to understand the core idea of the museum, and the expression form and content of the narrative, especially the most effective discourse (architectural and exhibition perspective) to convey the narrative and the relationship between the spatial layouts and narrative structure.
3. The author also communicated with staff in the museum to gather information such as patronage along with the field study. It is also helpful to determine the location of the questionnaire.
4. Based on the data and information gathered from the field trip, the questionnaire is designed. It started from the discourse of the narrative to the visitor's cognition of the story. The questionnaire mainly focused on the relationship between the museum narrative and architectural discourse in detail and how visitors perceive it.

5. The language consultation help revise the language of the questionnaire. The author also found volunteers to answer the survey previously. On the one hand, it can ensure the language of the questionnaire is straightforward and unbiased. On the other hand, it can control the survey time.
6. Lastly, the author made adjustments in response to the comments and feedback collected.

Observation and tracking

Observation is a way to collect data through watching people, behaviours or activities. It can be structured or unstructured. In structured observation, data collection uses specific variables and follows a predefined schedule. The unstructured observation is a free sense without predetermined variables or goals. The observation method needs a longer time to complete.

Moreover, the observer may influence the behaviour of sample groups. Hence, observations can be overt (participants know they are being observed) or covert (not knowing they are being observed). The covert observation is unobtrusive so as not to bias the answers. Thus, the author secretly observed the visitors so as not to affect their visit experience.

Furthermore, there are other methods of collecting data from visitors, depending on the purpose. The following table shows the positive and negative points of each method to ensure the data is evident during the collection process.

Table 5.2 The methods of data collection (source: author)

Method	Positive	Negative	Purpose
Interviews	Used to understand the authors' in-depth idea and concept	It is an intensive process, limited to how many can be done	To explore the different opinions between architects and curators as the author of museums
Questionnaire	Provide big data sets, when statistical data is required, used for everyone, they are self-completing	Do not provide underlying reasons for responses, and answers are limited, only interested people will answer, and not a leading source of evaluation	To evaluate the visitors' experience/accessibility directly through simple questions
Observation	The more direct way to know what visitors' behaviour in the museum	Used for activities that can be observed, and it is subjective.	To observe visitors' reactions during the visiting process; To observe curators' and designers' respondence during their answering process.
Counting	It is monitoring data and notes the number of people present.	Does not provide reasons, it only provides statistical data	To count which part of the narrative is more attractive and accessible in the Mary Rose Museum.

5.4 Summary

In Falk and Dierking's (2000) book *Learning from Museums: Visitor Experiences and the Making of Meaning*, they discussed "how design affects visitors"(Falk and Dierking, 2000, p. 123). Primarily, they pointed out that designers create space, and it can influence the visitor's movements. Here, the design of space mainly refers to the exhibition areas. However, they also defined the *shape* (the general outlines of something) and *mass* (the three-dimensional world of space shape) of the museum, closely related to the architect's discourse. In general, the metaphor of a building is

dependent on cultural identity and aesthetic requirements. However, the museum is the medium of object's narratives, so its metaphor is not only influenced by the symbol of national or regional identity, but also the interior museum contents. As MacLeod said,

> Museum architecture is no longer limited to its physical form, and the idea of the primacy of the architect's genius can be challenged. This opens up the process of making architecture to dialogue and active participation of museum professionals and even the public. (MacLeod, 2013, p.6)

Based on the above, the author believes that the spatial narrative is an integrated system, symbolising exhibits and spatial discourse, respectively. According to the theory proposed by Louis Hjelmslev and Charles Jekens (see in section 4.3.2), this *encoding process* of designing a museum is divided into the *expression* and *content* plane. The objects' entities and spatial language are on the expression level, while the objects' and *spatial narrative* are on the content level to express specific cultural meanings. These two aspects of museum content are organised within a particular context of the narrative. Space becomes the carrier of the objects' entities. At the same time, the exhibits influence the cultural connotations and value of spatial language. The narrative becomes a common language for these two sign systems, and architectural language can express narrative concepts through the metaphor approach. Hence, the narrative-oriented metaphor is a model to convey the cultural meaning of the museum narrative as a whole. It mainly refers to three aspects:

Firstly, it focuses on the relationship between architectural expression/signifier and content/signified. The metaphorical expression of museums includes two aspects in this study, which are the *signified* of both denotations of museum architectural form and interior museum content, respectively. The main research purpose of this study is to build the discourse relevant to architects via the metaphorical approach, to establish a link between museum architecture and the narrative of the objects – the two crucial elements for visitors to perceive the museum content. It can contribute to visitor's cognition of cross-cultural communication. The architect's discourse fundamentally determines the visitor's experience and cognition of the space and the exhibitions. Hence, the metaphorical expression is an important part to convey the abstract

narrative. This study treats narrative-oriented metaphor as a method of architectural expression rather than writing skills in literature.

Secondly, the narrative design of the museum is a diachronic process. It is the architect's deconstruction and reconstruction, which is not only influenced by environmental, natural light, urban context and other exterior factors, but also the core idea of the object's narratives inside.

Finally, the narrative-oriented metaphor cannot separate from the visitor's experience because it can only be established with space, events, and characters. Hence, the narrator and the reader must exist together to make it meaningful. The architecture itself becomes a part of the narrative; simultaneously, it also connects visitor's activities and movements, forming the dialogue to convey the cross-cultural meanings. As metaphor is an approach to learning, the narrative-oriented metaphor focuses on establishing cognition from visitor's perception (visual, auditory, and olfactory) and bodily movements to get information from the narrative.

And the narrative process can be expressed through metaphor approach from another angle, which can become the way that can make contributions to:

- the connection between museum content and its building;
- the medium between exterior social context and interior narrative context;
- visitor's open-mind interpretations and cognitions based on their cultural backgrounds and pre-knowledge;
- visitor's cultural, interpretation and emotional accessibilities via conceptual metaphor mapping.

In short, the metaphorical expression of the spatial narrative is not a story based on the architect's creations. Instead, it is a way to express the *signified* in the context of the exhibition. One of the purposes of the narrative-oriented expression method is to show the plot in the architectural language, which emphasise the way and ability of architecture to convey and communicate information. Spatial layouts is no longer a simple connection and organisation under the control of function and flow, but also is endowed with a strong sense of logic and hierarchy in a three-dimensional context. The following chapters will examine the architect's discourse and its relationship with

narrative and influences on visitor’s cognition, including cultural, interpretation and resonance accessibilities.

Case studies – Mary Rose Museum and the Ashmolean Museum

Two case studies were selected according to the research question – the connections between architectural language and museum narrative from inside-out. It isn't easy to choose case studies close to the author's assumption in China because most museums are not designed with a clear core idea of their content. As mentioned, the architectural design of the museum precedes the narrative framework. The studies of museum architectures emphasise architectural form, functional division, material expression, natural light, and other architectural expression elements. Meanwhile, the related museum studies focus on exhibits and spatial layouts, exhibition arrangements and methods, and visitor's learning and interactive experience. There are rare studies that show the relationship between the expression of "container" and its "content", except for the organisation between spatial layouts and collections display.

The author has already claimed the reasons for choosing the case studies in the UK. Here the author would like to describe more about the relationship of the cases with B&R, respectively. The Mary Rose Museum tells stories of the sinking ship. The Maritime Silk Road also contains many stories related to ships and trade, for example, the Guangzhou Maritime Silk Road Museum. However, there are differences between a museum as an educational institution and a storytelling place. The concept of the museum is to create a *time capsule*. It is worth mentioning that architectural design is fully integrated with the core idea of museum content, which reduces the disconnection between museum architecture and the object's narratives inside. It is valuable to analyse how the architects created the narrative context for the museum via a metaphorical expression.

Ashmolean Museum, Oxford, can become an example for the cross-cultural museums along with overland countries (the "Belt"). Firstly, there is a gallery of crossroads on the first floor, which tells stories of ancient Silk Roads from Asia to the Middle East. Secondly, the study aims to analyse the museum building itself can become a link and

create a new narrative context. And its architectural expression emphasises how the core idea of museum content influences the new extension building.

During the preliminary investigation process, the author from China represents an audience from a different cultural background. Therefore, the analysis and description of the two museums convey understanding and cognition from an audience with a different culture.

The main research methods of case studies are first to conduct field visits and photographic records, then contact the museum to finish the visitor's survey, including observation, interview, and questionnaire to investigate the visitor's interpretation of the spatial narrative expression of both two museums. The age group is limited to adult visitors to narrow down the scope of the research. They are usually more or less aware of the cultural-historical implications of museum content according to pre-knowledge. They can answer the questions by their interpretations, which is opposed to children who are less aware of connotation meanings and are taken to museums by adults. As the author mentioned in Chapter 4, metaphor exists between apparently dissimilar things, which helps identify the hidden ideas in a new approach. Hence, the metaphorical system between museum content and its spatial language allows creative imagination and interpretation for various visitors through conceptual cognition (Van Acker and Uyttenhove, 2012).

As reviewed in section 5.3.3, the primary measure methods for visitor's accessibilities are questionnaire, observation and interview. Considering the research purpose of the Mary Rose Museum and Ashmolean Museum, a unique survey needs to be designed to explore visitor's cultural accessibility, interpretation accessibility and emotional resonance.

1. Studying the Mary Rose Museum and Ashmolean Museum begins with the background and narrative structure used to describe the connections between museum narrative and architectural expression. These two parts have already been integrated into the author's understanding and analysis.
2. The questionnaire firstly needs to describe the purpose of the research to participants. The target audiences are adults over 18 years old from different countries. Firstly, the adult participants have a more mature perception of museum

exhibitions. They can profound interpret the content of the museum by themselves. Secondly, those who are under 16 years old need parental supervision and specific ethnic approval. The visitors from different countries represent their cultural differences, which helps to prove whether the museum can be accessible to visitors from different cultural backgrounds.

3. The initial number of participants was set at 100 or more to obtain at least 100 valid data. It helps to get sufficient data and percentage of statistics easily. After gathering and analysing 100 data, the study needs to do a second group of 100 samples to ensure the accuracy of the data.
4. There are mainly three parts of each questionnaire: the first stage asks the demographic backgrounds, which includes visitor's age group, gender, education level. For example, start by asking them, "Is your mother language English?" further, asking whether the language barriers affect their understanding. It is a cultural background and pre-knowledge survey of visitors to verify whether their cultural backgrounds and pre-knowledge influence their cognition of the museum's narrative.
5. The second part refers to the reason and elements that influence their visit to the museum. For example, the purpose of visiting the museum and the factors that affect their visit creates a general impression of the museum. Visitors usually have different purposes in the museums, which may arouse their various interpretations and attentions.
6. The third part examines their interpretations and perceptions of the spatial narrative via simple questions. This part is divided into two aspects – discourse and story, which examines how architectural language becomes part of the narrative (discourse). For the Mary Rose Museum, the questionnaire focused on the mirror-image of the architectural language related to the ship, the stories on each floor and the physical environment created by the exhibition and spatial discourse. For example, start by asking them, "did you notice the exhibits in the showcases of each deck were mirrored with each layer of the ship hull?" Further, "If yes, how does this mirror-image corresponding help you to understand the exhibition?" For the Ashmolean Museum, the questionnaire mainly surveyed visitor's cognition of the spatial discourse that express the meaning of "crossing" and how did this discourse influence their movements. For example, start by

asking them, “did you notice that there are ‘bridges’ across galleries around the atriums?” Further, measure their attitude to the discourse “when visiting the museum, I clearly know where to start or go next”. By asking them the detailed question, their understanding and cognition of the spatial discourse can be evaluated, which verify the influences and expressions of spatial narrative.

7. The questionnaire contains both close-ended and open-ended questions. The close-ended questions provide several options for reference that visitors can choose their comprehensions. However, due to the constructivist learning in the museum, the close-ended questions will limit visitor’s conceptual experience. Therefore, the author also reserves an open-ended option for some of the questions. For example, they can express a different understanding of the “bridge” “balcony” in the Ashmolean Museum except for the provided options. These open-ended options allow visitors to expand their interpretations based on their resonance and pre-knowledge.
8. The researcher firstly introduces the primary purpose of this survey and potential problems and then send the paper to volunteers who agrees to finish it. They can choose to fill out the survey in place, or they can spend it while walking around the museum then return it when they are leaving. The researcher keeps a distance from respondents to make sure they are not distracted. After the paper questionnaire is collected and reviewed, the data is recorded and calculated via Microsoft Form and Excel.

After designing the questionnaire and preparing for the research purpose, this part will focus on the two case studies that examine the framework of narrative-oriented metaphor in practice. And its impacts on visitor’s cognitive experience, to propose the suggestion for architect’s discourse during designing museum along the Silk Roads.

Chapter 6

Mary Rose Museum, Portsmouth, UK

The Mary Rose Museum in Portsmouth opened at the end of May 2013. The museum was located at Portsmouth's historic dockyard, in which the Mary Rose was built more than 400 years ago. The museum tells the story of the Tudor navy warship by displaying wreckage and salvaged objects. The Wilkinson Eyre designed the museum building, and Pringle Brandon Perkins&Will created the interior exhibition. The building won the RIBA South National Award and the Society of Brith Interior Design Internation Design Awards (Public space) 2014.

Mary Rose was Tudor's navy warship of King Henry VIII, which made significant naval wars between England and other countries. In 1545, Henry VIII's favourite warship was attacked and sunk from Portsmouth to the Solent (Figure 6.1). There are at least five hundred men drowned, and only thirty-five survived. In memory of the tragic history, the museum was built by Mary Rose Trust.

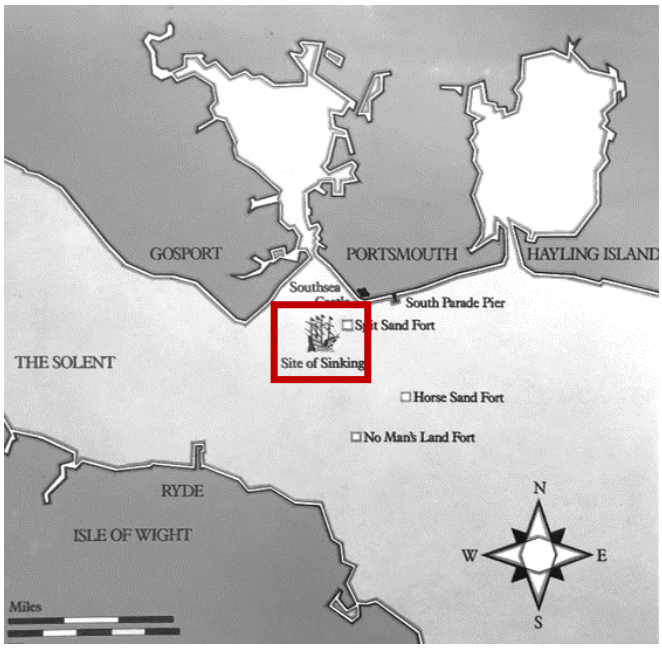


Figure 6.1 The sank location of Mary Rose (MaryRoseTrust, 1999)

People tried to salvage it soon after the warship sank, but the operation was suspended due to a lack of technology. Until the 1960s, Alexandria McKee and his professional

team conducted a detailed survey of the wreck, making a breakthrough. The salvage took a significant step forward when the century-old warship finally surfaced in 1982 (Figure 6.2). The wreck has retained its original historic appearance thanks to the natural protection of the silt of the seabed. Christopher Dobbs, a marine archaeologist, involved in the salvage process, said that the Mary Rose project was not built in a day and required a lot of effort and the involvement of different institutions.

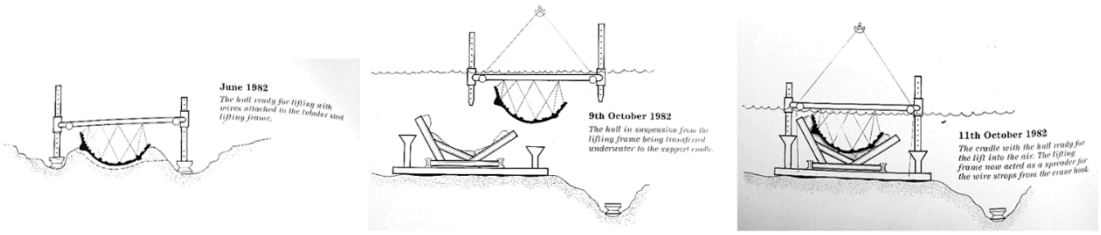


Figure 6.2 The salvage process of Mary Rose (MaryRoseTrust, 1999)

Nowadays, there are mainly three museums in the world built on shipwrecks: the Mary Rose Museum in the UK, the Vasa Museum in Sweden, and the Guangdong Maritime Silk Road Museum in China. The author mentions in section 1.4.3 that the Mary Rose Museum is one of the case studies because, in contrast to other museums, it is narrative oriented, particularly in terms of the integration between architectural discourse and exhibition. The Vasa Museum in Sweden is a dedicated museum to display the sunken ship of Vasa, which was recovered from the bay of Stockholm. The Vasa is the only intact seventeenth-century ship in the world. Until 1961, the battleships, which had lain dormant for more than three hundred years, resurfaced again. After that, many divers and archaeologists worked hard to find many precious objects around the hull.

In 1964, a sizable museum opened at the original wreck site. The Vasa has a more completed hull than Mary Rose. The museum adopted a different display method to tell the story. To make it easier for visitors to experience and protect the cultural relics, the designers set up a double-layer spectator stand based on the ship's layout (Figure 6.3). Visitors can see the private facilities at the ship's bottom once they enter the museum. Also, the ship's scenery can be a panoramic view of the spectator stand. Although the Vasa's sailing history is concise, the Swedes still regard it as a national treasure because it presents the Swedish shipbuilding technology and art during the seventeenth century, especially the wood carvings of the ship.



Figure 6.3 The Vasa Museum[87] and the wreckage of the ship[88]

Compared to the Mary Rose Museum, the difference is how the narrative is conveyed. The Vasa Museum displays the hull wreck more traditionally, in which the salvaged items are displayed separated from the hull. The visitors can observe the hull around it. On the contrary, the Mary Rose Museum shows that the museum building itself is not only a container of the object's display but can become part of the narrative structure. The building itself creates a narrative context as a "ship" from inside-out for visitors to experience. The Mary Rose is a museum that satisfies both the museum exhibition and architectural intention.

This chapter mainly consists of three sections. The first section provides an overall introduction to the background of the Mary Rose Museum, especially its changes from the beginning to nowadays, which relates to the social context and maturity of the museum theme. The second part focuses on the metaphorical expression of the narrative story – exhibits and how they were organised within the spatial discourse. The last section examined the visitor's cognition by symbolising objects and spatial language. The methods employed are field study, visitor's survey and observation.

6.1 Background of Mary Rose Museum

6.1.1 The site and social context

Mary Rose has been called one of the most famous shipwrecks in the world. In 1982, 60 million people around the world watched the ceremony live of the salvage. The researchers sprayed the ancient ship with polyethene (PE) glycol preservatives to

[87]Source from: https://triptipper.com/tips/the-vasa-museum. Accessed date: 22nd May, 2020.

[88] Source from: https://www.travelandleisure.com/travel-guide/stockholm/things-to-do/vasa-museum. Accessed date: 22nd May, 2020.

prevent its bones from rotting. After a slow drying process, the shipwreck is on display at Historic Dockyards in Portsmouth, UK.

The shape of the museum is intended to echo the surroundings of the site, creating a ship-like form. The curvilinear shape of the building, derived from the historic dry dock and the nearby HMS Victory, reflects their unique context, which conveys a sense of national identity and pride in the Royal Navy (Figure 6.4).



Figure 6.4 The site of the Mary Rose Museum (edited by the author)

(source from https://www.designboom.com/architecture/wilkinson-eyre-architects-mary-rose-museum-echoes-the-shape-of-ship-hull-2/)

6.1.2 The establishment of the Mary Rose Museum

6.1.2.1 The original Mary Rose Museum

The Mary Rose Trust led the salvage process and built a cradle to gradually transport the hull and over 19,000 items from the seabed to the Historic Dockyards. It creates the central place of the Royal Navy. After ten years of careful conservation and restoration, the Mary Rose Trust operated a museum in 1984, which displayed 6% of salvaged

objects separated from the wreckage. The hull was protected from other displayed items in a temporary tent-like structure (Mary Rose Ship Hall, Figure 6.5).

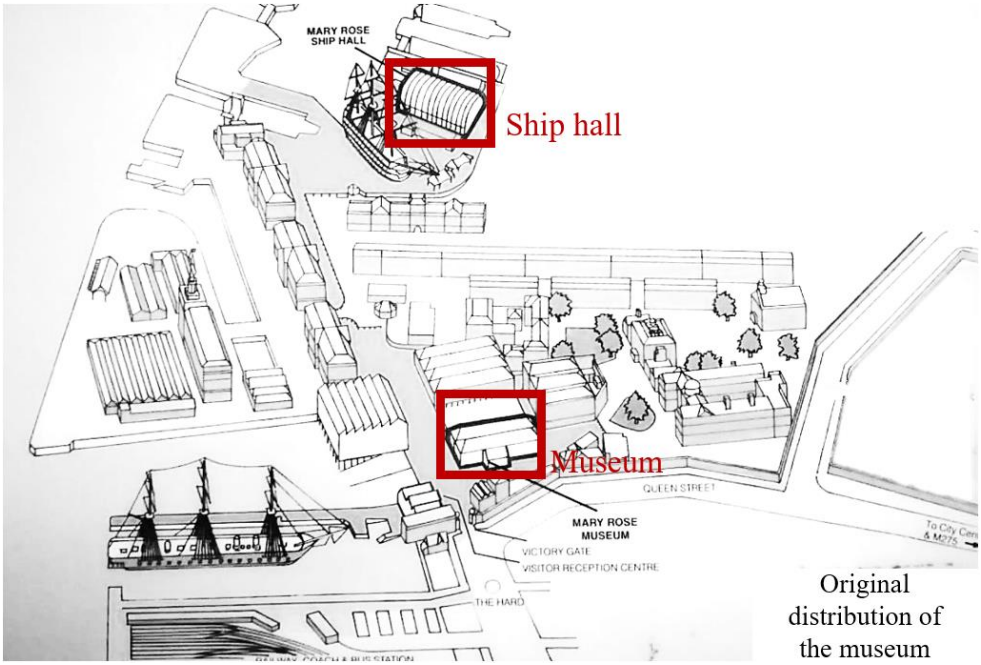


Figure 6.5 The location of the original Mary Rose Museum (MaryRoseTrust, 1999)

The Mary Rose Museum and Ship Hall recorded the original museum's spatial layout (Figure 6.6). The museum displayed the exhibits together, classifying them as different categories, such as the weapons on the ship and the crew's personal belongings. Besides the exhibition area, the museum contained a shop and theatre to satisfy multi-functional requirements.

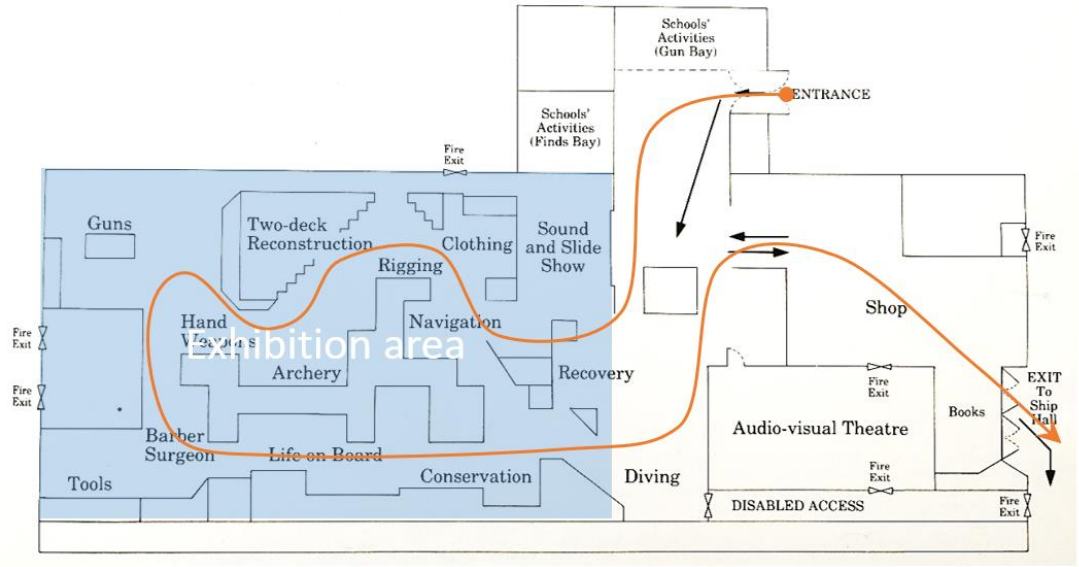


Figure 6.6 the original Mary Rose Museum (MaryRoseTrust, 1999, p. 7)

Although the museum contains other functional spaces, it can be seen that the museum was still primarily object-oriented. More importantly, the audience lacked a visual perception of the ship's hull when visiting the museum.

6.1.2.2 The innovation of the new museum

To tell a unique story of Mary Rose, the Mary Rose Trust decided to transform the museum into a different space, which integrated the hull and 60% of the total salvages together (Lippiett, 2010). In 2005, the Trust launched a design competition for the new museum of 4,500 square metres. The architectural design needs to expand visitor's accessibility and balance the necessary protection conditions of the ship. Moreover, in order to realise the concept of reconstructing the original form of the ship, a group of experts specialising in the study of Mary Rose were invited during the competition process. As Lippiett said, Mary Rose and the items provided a view into the Tudor culture of the sixteenth century. The museum is designed around the moment the Mary Rose sank, making the ship, the items, and the building thus becomes an indivisible whole (Lippiett, 2010, p. 332).

The new museum has integrated the hull and the objects from the original ship into an interactive space. As the ship cannot be moved from its dock, the basic concept of the new building is to build the exhibition area around it (Figure 6.7). So the building is similar to a shell, and the ship is a pearl inside.

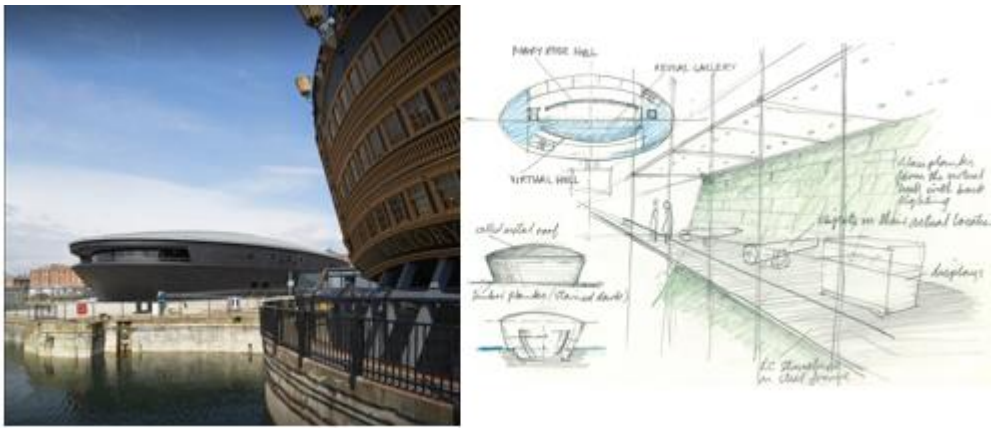


Figure 6.7 The design concept of Mary Rose Museum

(source from https://www.wilkinsoneyre.com/projects/mary-rose-museum)

With this requirement, the challenge was to tell the story of the ship hull through a fittable architectural discourse and create a new architectural form for the Portsmouth Historic Dockyard.

6.1.2.3 The challenges to construct the museum

As mentioned, the Mary Rose is protected in the dry dock – one of the first docks of Europe and accessed as the Grade I listed building (Lippiett, 2010; Jones, 2013). Despite the architect's concept, there is a series of difficulties in building the museum. The Ramboll Group, the engineers charged with the hull's protection and recovery, cooperated with the winning design team – the architects from Wilkinson Eyre and Pringle Brandon, to finish constructing the new museums. Moreover, Ramboll also provided archaeology, environmental, structural, and building services engineering for the museum's initial design (Jones, 2013, p. 32).

The primary challenge is to establish the appropriate architectural language to hold the stories. The container of Mary Rose has to be dedicated, as Chris Wilkinson (the director of Wilkinson Eyre) said, "The museum has a very specific design, it is suitable only for the Mary Rose" (Mara, 2013). The relationship of the building to its surroundings was not a significant consideration from the beginning. The architects designed the museum from inside-out and treated the hull as a pearl in the shell. The architects created a three-level "virtual hull" as the mirror image to replenish the wreckage (Figure 6.8). The objects on each deck were placed in their original positions, restored to the moment the ship sank. Chris Brandon, a maritime archaeologist, played a significant role in developing the museum (Lippiett, 2010, p. 333). He said, "We designed a museum that would recreate the experience of being on board the ship hundreds of years ago and created a context gallery to highlight its precious contents" (Frearson, 2013).

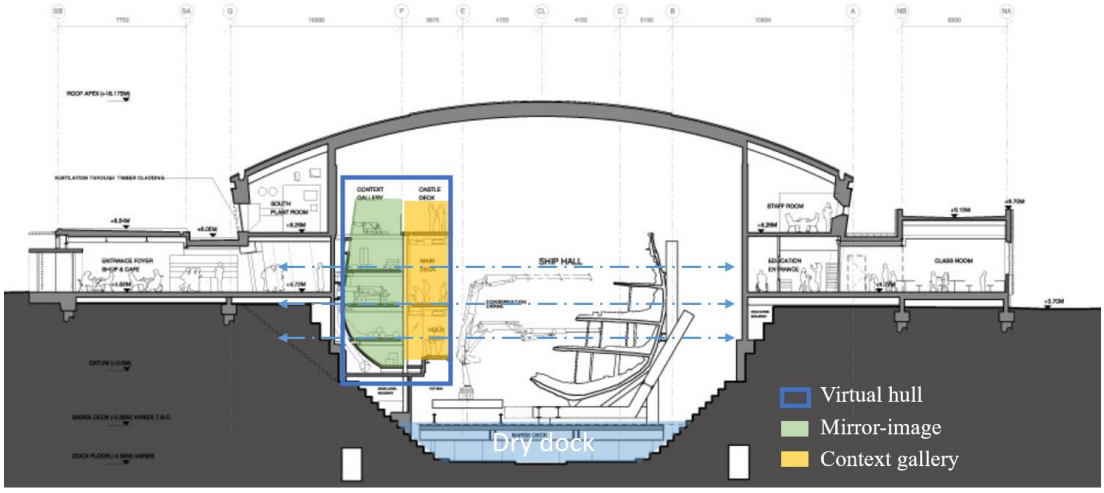


Figure 6.8 the profile of Mary Rose Museum (edited by the author)

(source from https://www.designboom.com/architecture/wilkinson-eyre-architects-mary-rose-museum-echoes-the-shape-of-ship-hull-2/)

The second challenge is to build the construction contain the whole hull of the ship without disrupting the original dock. It is challenging to develop the museum's foundation, as the Portsmouth Historic Dockyard is a cultural heritage site. Also, the structure of the museum building should respond to its site from an architectural perspective. In other words, the museum was required to satisfy the "virtual hull" without damage its original dock and also blend into its surroundings (Jones, 2013). As Figure 6.8 shows, the curved and long-span roof was designed to provide maximum space for the exhibition and cover the whole museum with the dry dock. The iconic ship still conveys a sense of national identity, even pride, particularly in the collections and the ship itself represent Tudor culture. It creates a "brand" popular worldwide (Attenborough, 2013).

6.1.3 The development of the Mary Rose Museum

Except for considering the surrounding environment, the rebuild Mary Rose Museum needs to protect the hull and the dry dock. The galleries were constructed around the original hull. The main exhibition space on each floor can be divided into three parts: the context gallery on each deck, the east and west gallery and the ship hull (Figure 6.9). Other functional areas include the shop, café, staff offices and learning centre.

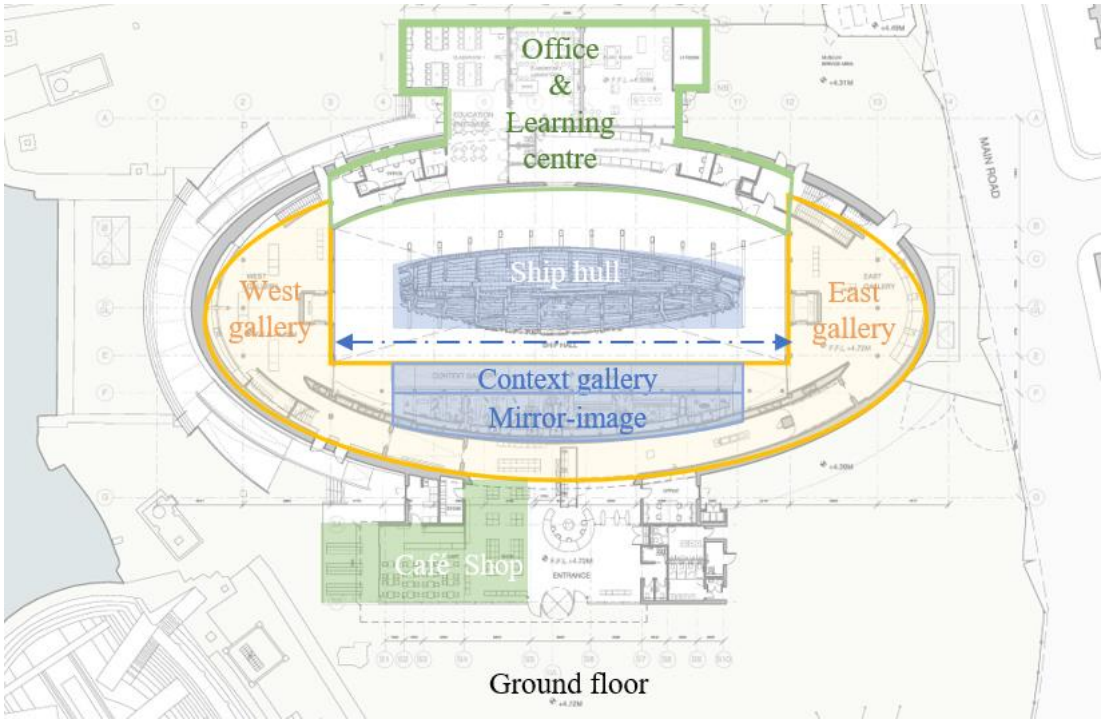


Figure 6.9 The spatial layout of the ground floor (edited by the author)

(source from https://www.designboom.com/architecture/wilkinson-eyre-architects-mary-rose-museum-echoes-the-shape-of-ship-hull-2/)

The gallery on each floor allows visitors to view the ship hull from a different angle. Except for the mirror image of the hull, the visitor's visibility can be obtained both from horizontal and vertical levels (Figure 6.10).

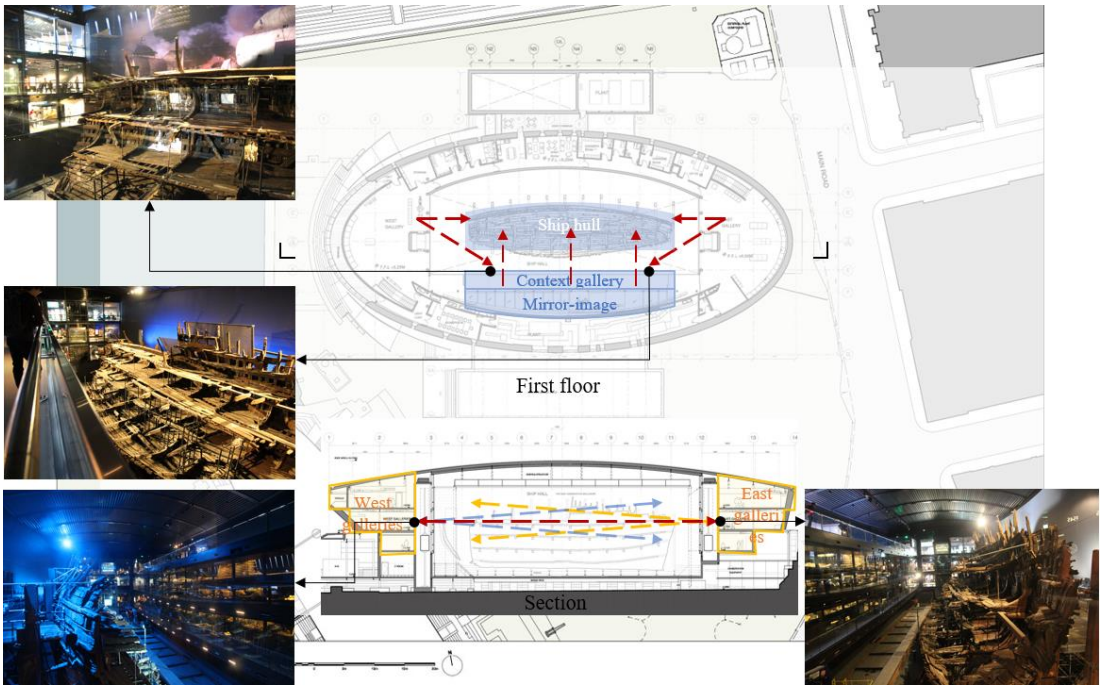


Figure 6.10 Visual connections from horizontal and vertical level (edited by the author)

(source from https://www.designboom.com/architecture/wilkinson-eyre-architects-mary-rose-museum-echoes-the-shape-of-ship-hull-2/)

The context galleries on each floor allowed visitors to view the ship hull and the salvaged objects, while the east and west galleries provide various views of the virtual hull. The three-dimensional visibility runs through the entire museum that guides visitor's movements to explore each deck. The following section will examine the narrative and its expression in detail.

6.2 The analysis of the museum narrative and its expression

The museum is contained with symbolic messages based on the architectural language of form, space, light and materials. The critical question is the way the architectural symbols are integrated with the core idea of the museum narrative, contributing to enhancing visitor's understanding of this Tudor warship.

The starboard side of the wreck of the Mary Rose has been preserved to form the centrepiece of the museum. This area is strictly monitored to ensure the hull is not damaged. The salvaged objects were protected and displayed on the three-level of the deck, respectively. The visitors can see various parts of Mary Rose clearly through the exhibition walkways and experience the Tudor ship life. This part focuses on analysing

the expression and communication of the museum's narrative and its connections to architectural discourse. First of all, it introduces the explicit narrative framework. Then, it focuses on how the narrative impacts the architectural language, and the cultural connotations of the narrative story is metaphorically conveyed through the exhibition and architectural discourse.

6.2.1 The explicit narrative on the *expression* level

The whole museum's general concept is a "Tudor time capsule of Mary Rose", and it protects the tragic moment of the shipwreck. To tell this story, on display are half of the surviving Mary Rose, as well as parts of the hull rebuilt on three levels. As mentioned in the last section, three levels consist of the exhibition gallery to complete the hull. The context gallery on the deck contains objects used in combat, such as cannon, ropes, and longbows. All of the exhibits are displayed within the storyline. Each object can be classified as restoring the items to their original position on the deck. The purpose of the object's discourse is to convey the plots of the ship in the past. The portholes have been removed once the maintenance work was completed in 2017, which made the mirror image of the hull possible (Figure 6.11).



Figure 6.11 The comparison of the context gallery on the deck between 2017[89] and 2019 (source: author)

In the context gallery, the footpath runs along the virtual hull from the stern to the bow, and the cabin has a low ceiling, which enhances the immersive feeling. The three long walkways represent the three parts of the warship: the main deck, lower deck and upper deck. The narrative framework connected these three parts, and there is only a linear route for the whole exhibition in the museum (Figure 6.12).

[89] Source from: https://www.e-architect.co.uk/england/mary-rose-museum-portsmouth. Accessed date: 20th May, 2020.

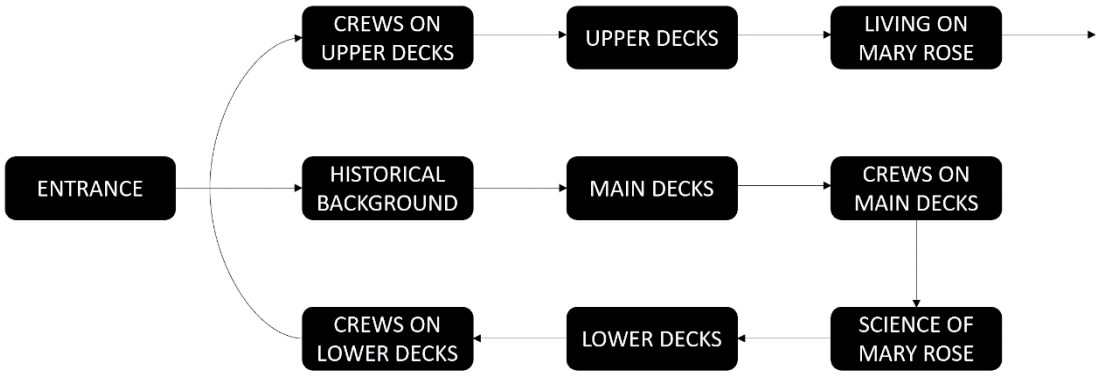


Figure 6.12 The narrative structure of the museum content (source: author)

At the end of each deck, there is a gallery that collects and organises the personal belongings of crews, which give a closer look at the artefacts belonging to individuals and telling the stories of their owners – the carpenter, gunner, surgeon, cook and purser. These stories create a unique part of Mary Rose instead of just showing them in categories like the original Mary Rose Museum. As Figure 6.13 shows, the crew's life on the ship was created and interpreted.



Figure 6.13 This picture recreates the stories of crews on the Mary Rose (source from maryrose.org)

In order to examine how the museum building becomes a part of the narrative, a brief introduction of the exhibition will be introduced. The visiting route starts from the main deck, passing the lower deck to the upper deck (Figure 6.14).

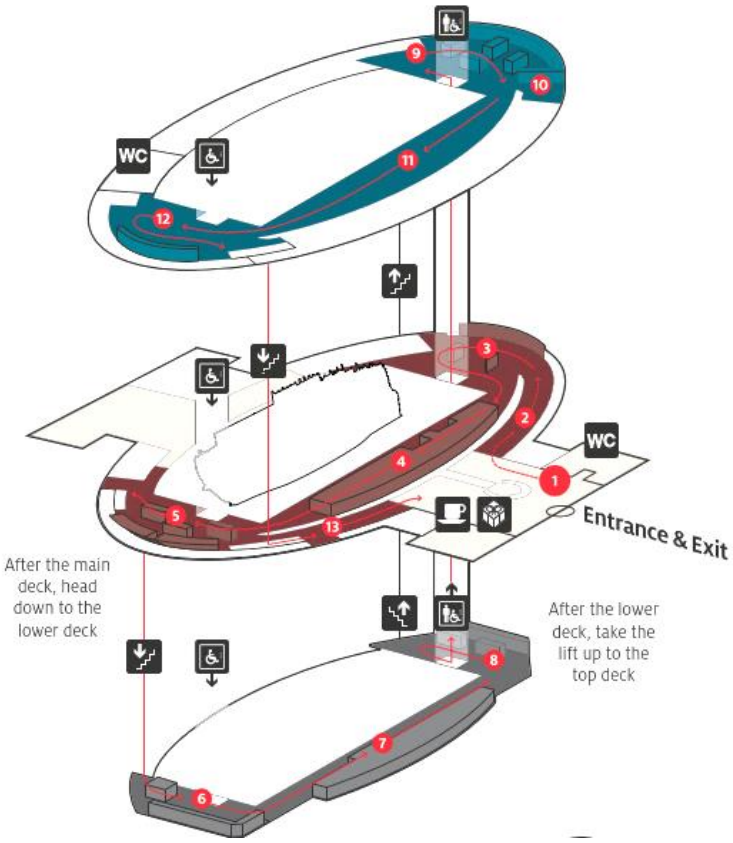


Figure 6.14 The narrative structure and streamline of the museum content (source from maryrose.org)

The whole story begins in flashbacks. The first part of the entrance has attracted the audiences into the day (19th July 1545) of sinking through a video. Also, a narrator dressed as Henry VIII tells the story on that day (Figure 6.15).

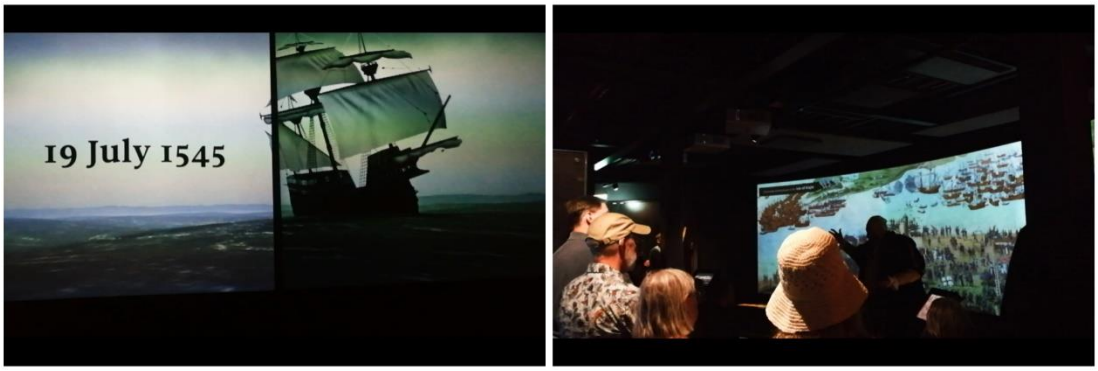


Figure 6.15 The video of the wreck; the narrator's explanation (source: author)

After a brief introduction, visitors begin their exploratory of Mary Rose from the main deck. In order to restore the original context for the objects on the main deck, the designers set up the restoration drawing of the main deck. It also marked the position

of the bow and stern on the floor so that visitors can feel the shape and size vividly (Figure 6.16).

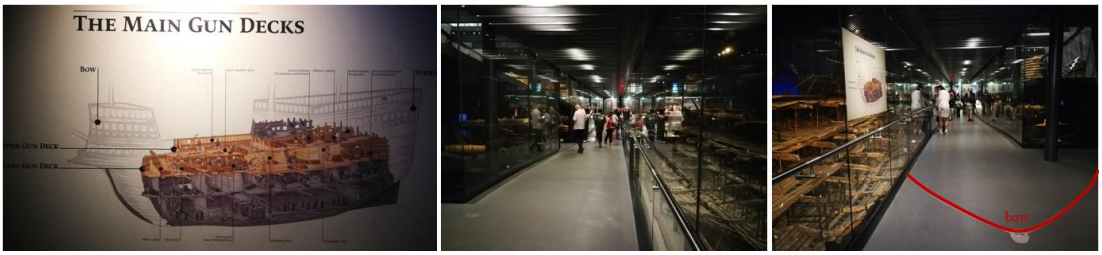


Figure 6.16 The main deck from stern to bow (source: author)

As visitors walk along the main deck of the context gallery, they are drawn to the shipwreck to the right of their sight. Several gunners' cannons and other equipment are positioned on the original gun carriage (Fig. 6.17). Through this mirrored space, visitors can get a sense of how narrow the ship was.



Figure 6.17 The context gallery of the main deck (source: author)

Except for exploring the cannons, arrows and other weapons of the ship, the short films projected on the hull tell the stories of the crew's daily life on the deck, such as their combat scene, conversations, and entertainments. The immersive films contribute to bringing and attract audiences into being on the ship (Figure 6.18). During the field study, the author found that almost every visitor passing the deck would stop to watch the projected video. Also, some visitors would guess the crew's status shown in the video.



Figure 6.18 The projection video on the hull (source: author)

As for the hull itself, it represents an exhibit in the museum. In the context of the projected video, its meaning is superimposed – from static to dynamic. The ship can also be seen as a narrative space transformed from the exhibits in a big glass case.

According to the exhibition discourse, the crew had a clear division of labour, so their items have been organised to display on corresponding decks. Scientists can use specialised things, such as hand tools, ointments and medicine flasks, to verify their owner's identity and positions on the hull. After researching, the main deck crew members included the carpenter, the gunner, and the surgeon. For example, the carpenter items show that he was wealthy because he had a personal chest in his cabin, which would have taken up precious room on the crowded ship (Figure 6.19). Scientists also discovered a two-year-old dog on the main deck, just in the carpenter's cabin. The researcher of the Mary Rose named him "Hatch" and supposed it was used to catch mice.



Figure 6.19 The carpenter and Hatch on the main deck (source: author)

Also, historians identified the skeleton of gunners through their figures, especially the master gunners, who were in charge to prepare and secure the guns. He used a whistle to give commands, including when to fire the weapons. Also, the surgeon was a man who took care of his image because the historians found his razor and shaving bowl except for the tools used for surgery and treatment (Figure 6.20). The exhibits in each showcase are displayed to tell the characteristic of each crew member on the main deck.



Figure 6.20 The personal belongings of the master gunner and surgeon (source: author)

After the main deck tour, visitors need to head down to the lower deck following the floor guide. They can keep exploring restoration techniques such as the skeleton recovery of each crew at the bottom of the ship and the salvage site recovery (Figure 6.21). This information does not only displayed through physical objects but also interactive media to tell the stories of the various recovery process, which contribute to enhance and improve visitor's understanding of the Mary Rose and its crews. The visitors can select the part they are interested in on the screen. However, the information contained in an interactive device is limited. There is a professional archaeology staff in this gallery to answer visitor's questions.



Figure 6.21 The recovery science of Mary Rose (source: author)

According to the restoration research, the lower deck contains two levels. The first level of the lower deck was used for cooking and eating, which mainly included a galley with a huge cooking bench, firewood store and the barrel store for food. The upper level of the lower deck used to store different supplies such as archery, rigging lantern, and the purser worked here as well (Figure 6.22). He was responsible for paying the wage of the crews, keeping accounts of stores, buying and distributing supplies. He had a chest with a large number of gold and silver coins.

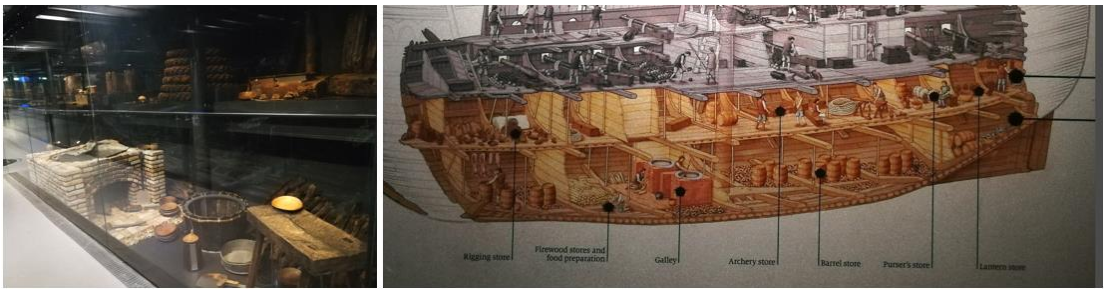


Figure 6.22 The story of the lower deck (source: author)

Accordingly, the other side of the deck introduced the life on board the lower deck and their personal belongings. Surprisingly, the cooks were paid the same as the master carpenter and the master gunner, although he always stayed at the bottom of the lower deck. He took responsibility to feed over four hundred crews and preparing more elaborate meals for the officers on the upper deck.

There is a detailed story of the crews, the different logos on the plates and bowls. The crews have carved their paintings or stamps on personal belongings to mark their items because the crews on the ship were not well educated and could not write in words (Figure 6.23). For example, some marks found on a bowl and a tankard suggest that the cook's name was "Ny Cop" or "Ny Corp".



Figure 6.23 The crews and their personal belongings on the lower deck (source: author)

After visiting the lower deck, visitors can ascend in a sightseeing lift from the lower deck to the upper deck directly and have a unique view of the ship (Figure 6.24). The upper deck provides an interior platform for visitors to perceive the ship without barriers. After the end gallery, visitors can watch a full video about Mary Rose's story on the internal platform before the museum closes.

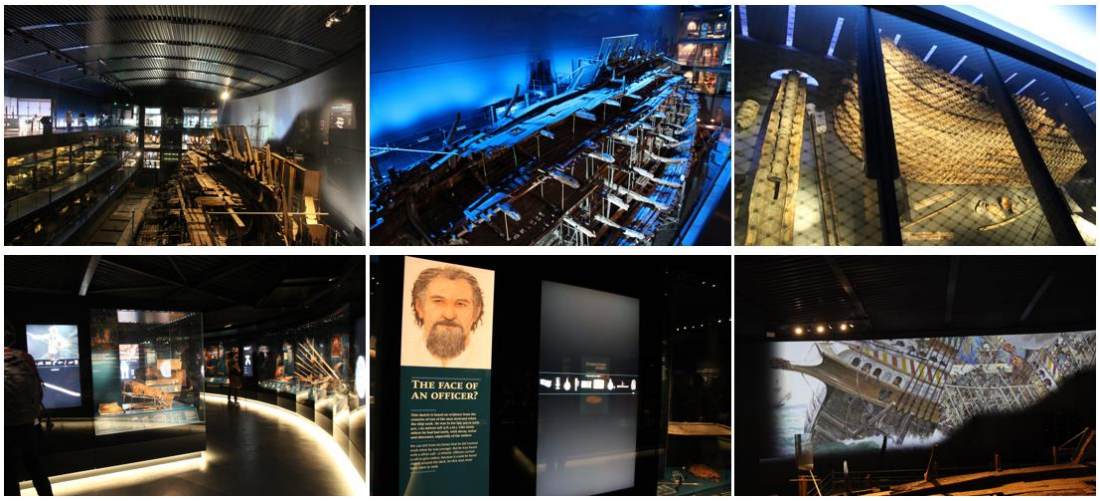


Figure 6.24 The upper deck from the panoramic lift, the upper deck platform, and the end gallery (source: author)

The crews on the upper deck were mainly the officer, gentlemen and archers. Of the fifty chests recovered from the Mary Rose, twenty-eight had personal possessions inside, especially the wealthier crews – the officers and gentlemen. They took responsibilities for a quarter of fighting men on board. If the personal belongings on the main deck and lower deck focuses on the crews daily life, amount of longbows and arrows were displayed on this level to show the ferocity of the war (Figure 6.25).

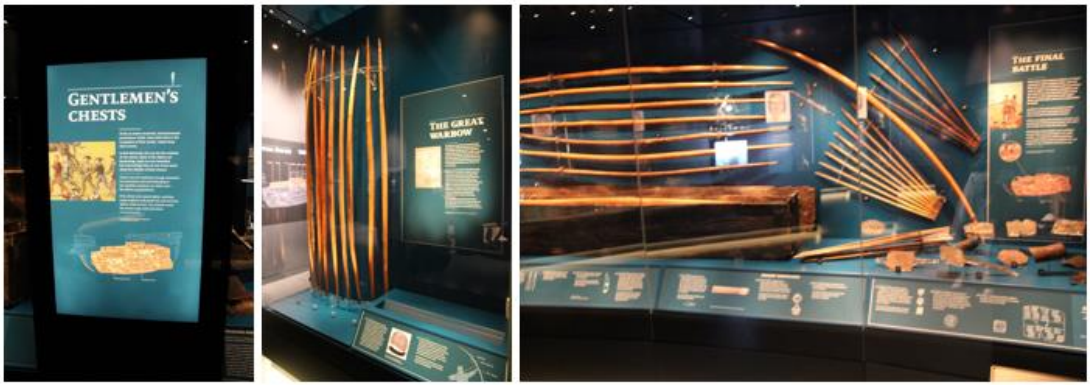


Figure 6.25 The men of the upper deck and the temporary exhibition at the end of the museum

Also, the museum organised a remarkable exhibition about “Many faces of Tudor England”. With so little written information on who the crew members were, the study of the 179 individuals excavated from the wreck of the Mary Rose by historians shows the secrets of how they lived and where they came. From the scientific perspective, once human teeth have formed in childhood, their chemical signatures do not alter. To determine where the crews were born, the researchers took collagen and enamel from their teeth to identify the “isotopes”. The study aims to convey the stories of crew members, such as who the crews were and what they looked like. Although many of them came from different countries such as Spain, Gdansk and England, they still work and live together, even died together. It also reflects the spirit during the Tudor period and arouses visitor’s emotional feelings about these lost lives.

According to the description and analysis above, the narrative framework of the Mary Rose Museum can be summarised in the following table.

Table 6.1 The narrative framework of the Mary Rose Museum (source: author)

Core idea	The primary framework	The secondary framework
Tudor time capsule of Mary Rose	Upper decks	Men of the upper decks
		Hands-on the Mary Rose
		The upper decks
		The admiral’s gallery
	Main decks	The king’s ship
		19th July 1545
		The main decks
		Men of the main deck
	Lower decks	Science and the Mary Rose
		The lower decks
		Men of the lower decks

The whole museum adopts a hierarchical structure to tell different storylines. Based on maintaining a single narrative in the main storyline, the plots before the sinking were restored, followed by the scientific information discovered during this process. More importantly, the museum’s explicit narrative is unique. It does not divide the

exhibits into categories, such as combat tools, combats equipment, crew supplies, daily necessities and so on (just as the original Mary Rose Museum mentioned in section 6.1.2). Although the display method of the Mary Rose Museum is quite simple, each showcase consisting of different kinds of objects represents an independent plot about a crew member. Based on this narrative framework of the "time capsule" of the ship, the spatial discourse of museum architecture complements the expression, especially the mirror image of the decks. On the one side, architectural language metaphorically expresses the hull itself. On the other side, the deck's spatial narratives allow visitors to empathise with the crews and their life on board. It expressed meaningful content through the rebuild and recovery architecture from inside-out (Figure 6.26). The virtual hull of Mary Rose has frozen the sank moment, which contributes to immersive experiencing for visitors from different countries.

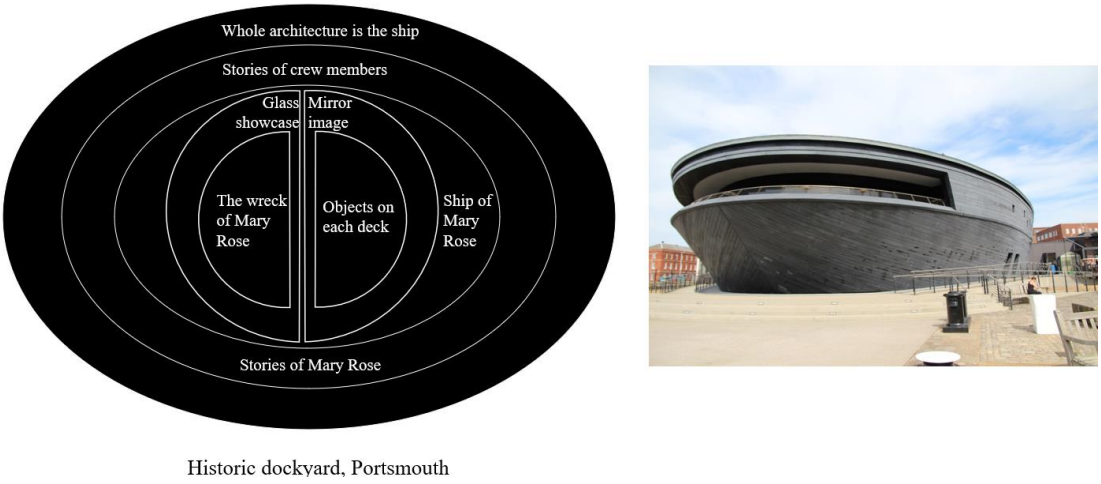


Figure 6.26 The expression of the museum based on container schema (source: author)

6.2.2 The discourse of architectural and exhibition language

Based on the above analysis of explicit narrative, the virtual hull shaped by the museum architecture itself is the most creative part that complete the whole narrative. Based on this idea, the detailed spatial discourse metaphorically conveys the story of the Tudor time capsule.

Following the archaeological excavation and salvage, the exact location of each object was determined and reassembled in the exhibition. In order to create the atmosphere of being on the ship for visitors, the building firstly creates an enclosed environment. The building deliberately prevents daylight from entering the exhibition area and keeps

the space in the dark background. The lighting design won “The Public Building Lighting Design Awards” in 2014.



Figure 6.27 The dark environment of the exhibition area (source: author)

Only a few lights are set above the exhibits and under the handrails deck by deck to allow people to focus on the exhibition (Figure 6.27). On the one side, it created the context of walking onboard based on its object’s narratives; on the other side, the dark environment helps protect the artefacts from the UV lights. Also, the museum provides a “relaxed opening morning” to light the museum for visitors who dislike dark environments (Figure 6.28).



Figure 6.28 The relaxed opening morning on 21st July 2019 (source: author)

Combined the architectural and exhibition discourse, the museum creates a dark and enclosed space similar to the cabin of the Mary Rose. With the dim light effect, the ship remains being viewed as a sea creature that has been just pulled from the seabed. Except for the dark light environment, the specific sounds of different scenarios also make visitors feel at sea. For example, it plays the whooshing of waves and the

footsteps of people who might be on the decks above (Figure 6.29). Therefore, the atmosphere created by light and sound is a significant feature of the exhibition discourse, improving the narrative context.



Figure 6.29 The different light effects of the ship hull (source: author)

Except for the exhibition discourse, the building echoes Mary Rose's shape and is inseparable from its surrounding environments. The exterior façade is made of wood applied to traditional England's boatshed building. The roof structure is covered by aluminium, which comes from the cathedrals during the Tudor period (Jones, 2013).

Moreover, the wooden cladding of the shell-shaped building creates a metaphor as a hull that refers to the marine environment (Figure 6.30). The interior spatial form has influenced the exterior shape of the building. Also, the architects sought a weather-resistant material – the Norwegian wood for the exterior façade. It also represented the sedimentation of Mary Rose's history. An open gallery at deck height provides panoramic views of Portsmouth harbour in contrast to the hull area's proximity, which also connects to the surrounding context.



Figure 6.30 The material and shape of the exterior façade (source: author)

In short, the architectural languages, including material, colour, or interior spatial configuration, natural light and ventilation, all can be echoed with the narrative inside.

Influenced by the exhibition discourse, those architectural languages are added connotations related to the core idea of the museum story. They are not just individual architectural languages but part of the whole narrative. The combination of spatial language, light, and material creates an atmosphere for visitors to understand the space and the stories. The following section will show how they express these connotations.

6.2.3 The implicit narrative on the *content* level

According to the narrative on the expression level, it can draw the following opinions about the implicit narrative (story) of the Mary Rose Museum:

Firstly, it is the way the narrative combines with the architectural language of the whole museum. It creates a narrative context that takes visitors into the historical atmosphere of the wreck. It does not merely display the items in each gallery but also creates three-dimensional space via the mirror image of the hull to tell a whole story of this Tudor warship (Figure 6.31).

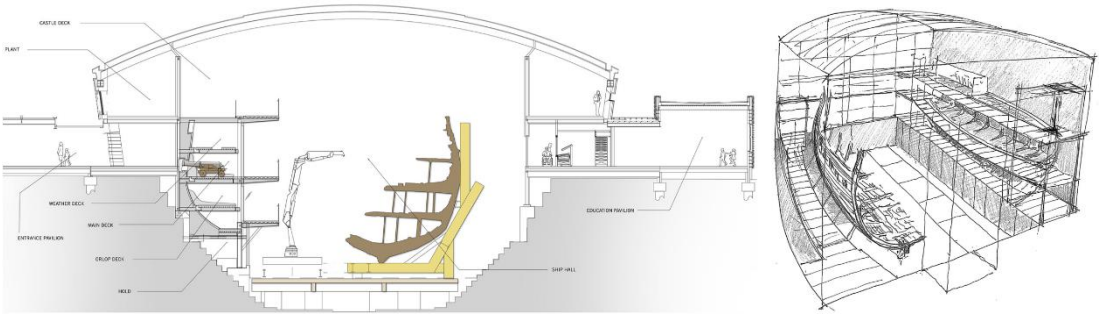


Figure 6.31 The virtual hull and the actual remains are mirror images of each other

(source from https://perkinswill.com/project/mary-rose-museum-2/. Accessed date: 20th May 2020)

Secondly, most of the exhibits in the museum not only represent the scientific investigations of Tudor culture, but also tell stories of the crews from different countries. Similarly, the display of their personal belongings is not only the evidence to identify them, but also express their love for life as much as us. For example, simple musical instruments and crude wooden wine glasses reveal that the crews have sought joy in the hardship. The cannons and arrows show their tight and stiff operational condition – all of the operating modes rely only on the workforce to pull the very thick hemp rope to install the heavy equipment. Therefore, the audience sees more respect and awe for life and suffering for war by describing this Tudor history.

In addition, the relationship between the museum and its surroundings are integrated tightly. The surrounding environment creates the social background of the museum – the area of the Royal Navy. The museum building itself combines both internal and external contexts. In other words, the architecture does not only provide a container to organise the exhibits and streamline but also becomes part of the narrative context. On the one hand, the single architectural language, such as spatial form, volume, material and light, represents the functional requirements from the architectural perspective.

On the other hand, the combination of these languages is a metaphor for the hull's story. Each architectural language not only represents the *signifier and signified* of an architectural symbol, but also conveys their cultural connotations – the time capsule of the Tudor Mary Rose as narrative discourse (Table. 6.2). For example, the floor of the context gallery originally means the walking path from its functional expression (signified). Under the influences of the narrative – the sign of the "stern and bow" and the mirrored showcases, the floor becomes part of the deck.

Table 6.2 The narrative-oriented metaphor of architectural discourse as the "virtual hull" (source: author)

Elements	Expression of architectural language (signifier)	Signified in architectural language (first-order)	Superimposed connotations with narrative (second-order)	The impacts on visitors
Floor		Function: a walking surface	Marking the shape of the bow and stern becoming the virtual deck	Walking on the decks
Glass wall		Function: protect the hull	Mirror image of the hull	Visiting on the warship
Glass material		Function: showcase	Part of the ship's cabin	Viewing the original location of each object
Light		Dim and enclosed environment	The atmosphere under the sea	Experiencing the moment the ship sank

The core of the design of the Mary Rose Museum from inside-out is to symbolise the spatial narrative and then to integrate it via a complete narrative structure. Therefore, the building concept is indeed a metaphorical expression of the museum content driven

by the narrative framework. The following section examines visitor's accessibilities to the idea of the "ship" through this metaphorical manifestation.

6.3 The visitor's accessibilities to the narrative-oriented expression

The previous sections have analysed the architectural language and its relationship with the narrative context from the discourse (*signifier*) and story (*signified*) levels. Notably, the architectural (spatial) language creates the narrative context that allows visitors to experience the Tudor warship. Only expressions that audiences can perceive are effective, especially in museums that contain information. This section will analyse visitors' accessibilities to the story expressed through narrative-oriented metaphor, examining how the architect's discourse affects visitors' cultural, interpretation and emotional accessibilities.

The museum offers a single tour route, as mentioned earlier, starting from the main deck and going down to the lower decks, then via the panoramic lift to the upper deck. As mentioned in Chapter 5, the questionnaire is a tool to measure visitors experience and cognition of the museum content directly. There are nine questions in total, which include both open-ended and closed-ended questions. The author handed out questionnaires on the upper level - after the exhibition ended. Volunteers were able to answer all the questions at once after their visit. From 1st June 2019 to 22nd July 2019, the author has finished the visitor survey and observation after getting permission from the museum. Finally, one hundred surveys are valid.

6.3.1 The visitor's demographic information

The first part of the questionnaire investigates the demographic information of visitors. Considering the interpretive skills of the museum's narrative and ethical requirements, the participants are visitors over 18 years of age. All of the participants were randomly chosen during their visit process. The first part of the questionnaire has two purposes:

Firstly, it ensured that people answering the questionnaire were adults with some cognitive ability to interpret the narrative subjectively.

Secondly, it recorded the participant's pre-knowledge and their cultural backgrounds.

Besides, the group of tourists usually refused to answer any question due to time constraints.

The first question is about visitor's age group. Figure 6.32 shows that the group 30-49 (34%) and 50-64 (30%) are the most visited and willing to finish the questionnaire compared to other groups. And participants of these two groups often came with their children. The museum is a magnet for children because it has prepared a series of hands-on activities. For most respondents, 94% of them found the museum attractive, which shows that most audiences accepted the narrative-oriented expression of the museum.

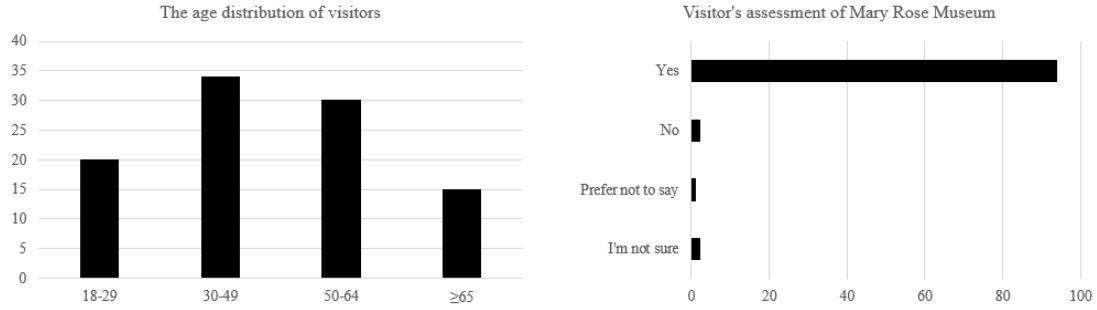


Figure 6.32 The age distribution of visitors and their assessment of Mary Rose Museum (source: author)

After knowing the visitor's backgrounds, and their initial impressions of the museum, it moves to their perception and interpretation of the narrative from sensory experience to cognitive learning.

6.3.2 The visitor's perceptions and cognitions of the narrative

The second part of the questionnaire is designed to investigate the understanding of the audiences from the explicit narrative (perception) to implicit narrative (cognition).

1. It explores the visitor's perception and interpretation of the museum narrative on the expression level, the relationship between narrative and visitor's movement in the museum.
2. It investigates the cultural connotations (*signified*) of narrative on the content level and their influence on the visitor's cognitions.

To analyse the visitor's perception of the discourse of narrative context, the author asked participants to assess the physical conditions that affected their visiting

experience, which intend to identify the audience's awareness of the language of the exhibition and the museum architecture (Table 6.3).

Table 6.3 The physical conditions affected visitor's experience (source: the author)

Factors	Important	Neutral	Not important
Interior atmosphere			
Sequence of visiting			
Understandable exhibition			
Resting places			

As a result, 94% of participants thought the museum is understandable, which shows that one of the most crucial factors is the interpretation accessibility of the exhibition. The secondary element is the "interior atmosphere", which relates to spatial discourse such as material, light on the expression level. 76% of the respondents thought the atmosphere was essential to their visit experience. Also, 58% of respondents found the one-way visiting route contributed to their understanding of the museum content, which refers to the spatial layouts. At last, other additional areas, such as a resting place – the outdoor café, is less important than other factors.

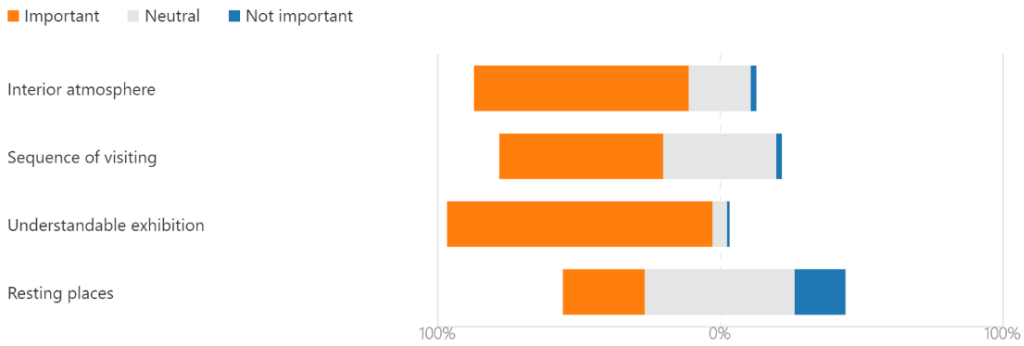


Figure 6.33 The assessment of factors that influence on visiting experience (source: author)

The next question was whether the participants had followed the route set by the museum, which is significantly influenced by the narrative structure. The collected data showed that 88% of the total respondents followed the set up "visitor route", while

the rest chose to visit randomly (Figure 6.34). The data illustrated that the museum has a reasonable spatial configuration, so most visitors established an idea of the overall narrative structure of the museum. It helped to understand the storyline of the individual decks further.

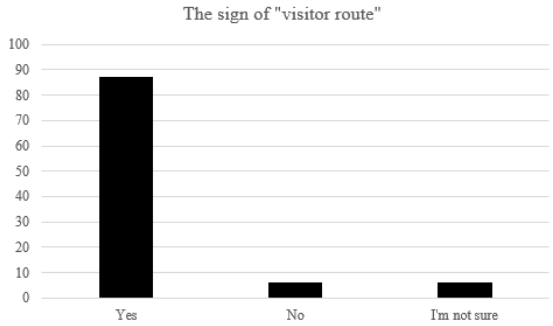


Figure 6.34 Visitor's movements following the "visitor route" (source: author)

Based on the analysis of explicit narrative, the most important discourse of the narrative is the virtual hull. Investigating visitor's cognitions and understandings of this discourse is the core purpose of the questionnaire. So the author asked them whether they have noticed the mirror image of each deck. Fortunately, almost 90% of the volunteers saw the mirror image relationship between the context gallery and the hull wreck (Figure 6.35).

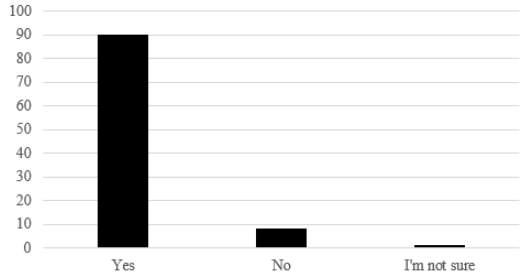


Figure 6.35 The respondent's notice of the virtual hull (source: author)

Further, the author investigated how they interpreted this spatial discourse through a semi-opened question. Indeed, the author offered several possible options to guided their understandings. As Figure 6.36 shows, 42% of the participants agreed that the mirror-image discourse shown the original location of each item on each deck, which exactly achieved the museum's exhibition purpose – the restoration of the ship. Also, 28% of the respondents connected this spatial discourse to understand the crew's

stories. 24% of the participants held opinions that it immersed them into the moment Mary Rose sank.

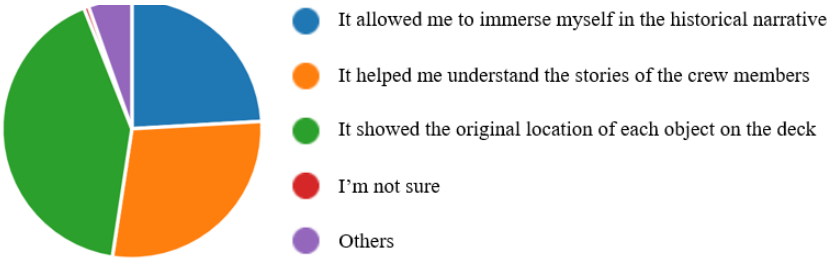


Figure 6.36 The visitor's interpretation of the mirror image (source: the author)

Excepted for these trigger options, a small group (7% participants) proposed their interpretations, as table 6.4 shows.

Table 6.4 The participant's different opinions and classification code (source: author)

The respondents' answering	Code
'It took me back to the ship of Mary Rose vividly.'	Immersed experience
'It is interesting to compare with modern-day.'	Interpretation accessibility
'More atmospheric, greater drama, sense of discovery.'	Immersed experience
'It showed the width of the ship.'	Sense of space volume
'It gave a sense of shape and size of the ship.'	Sense of space volume
'It gave insight, greater meaning to each area.'	Interpretation accessibility
'It added realism.'	Immersed experience

All of the interpretations represents their feelings for the design of the mirror image from different angles. Their answers expressed their perceptions of Mary Rose, their understanding of the atmosphere, and their assessment of the spatial discourse, which directly divided into immersed experience, interpretation accessibility and sense of space volume.

Tightly integrated with the discourse of the virtual hull, the author then set up a semi-opened question to ask their feelings in this dark and enclosed space, which is a discourse of the fusion of the language of exhibition and architecture (Figure 6.37). More than half (68%) of the participants admitted that they felt like walking inside a "ship". This cognition indicates that most of them had a clear understanding of the narrative story of Mary Rose. 11% of the participants felt like under the sea, which is

closely related to the exhibition atmosphere. It is worth noting that some visitors felt uncomfortable in the dark that mainly aroused by the lighting, which corresponding to the reason why the museum offered a “relaxed opening morning” to light up the whole exhibition area.

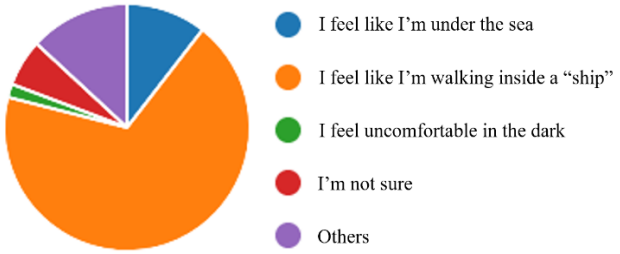


Figure 6.37 Visitor”s feeling in the dark and enclosed space (source: author)

In addition to the options offered, 13% of the participants expressed their own opinions (Table 6.5). Some people described their psychological feelings to the dim atmosphere directly, and the others provided their cognition to the metaphorical expression of the narrative to some extent. For example, some visitors claimed they felt vertigo and swaying on the walkways (Number 7, 10, and 11), which is the most intuitive understanding of the museum’s spatial narrative. It represents a marriage of exhibition and architectural discourse, creating the sensation of walking on a ship for the visitors.

Table 6.5 Visitor’s opinion of metaphorical expression of the spatial narrative (source: author)

Number of visitors	Visitor’s opinion of metaphorical expression of spatial narrative	Number of visitors	Visitor’s opinion of metaphorical expression of spatial narrative
1	‘Bit different. I can see they tried to make it feel like onboard, I think.’	8	‘like being in a museum.’
2	‘Walking back in history.’	9	‘Curious.’
3	‘It is atmospheric.’	10	‘Felt like I had vertigo at times, and a sense of movement like being at sea.’
4	‘Difficult to see due to low light.’	11	‘The sloping walkways were especially evocative!’
5	‘Led to an understanding of how the ship worked.’	12	‘Gives you a good understanding of how the crew lived on board.’
6	‘Pleasant and relaxing.’	13	‘I felt like a close observer of actual history.’
7	‘Felt like I was swaying on the ship.’	14	‘Enjoyable.’

From their opinions, it can see the atmosphere that the whole museum brings to them allows them to have a various understanding of the exhibition, such as the immersive experience (1, 5, 7, 10, 11) and the more profound interpretation of the narrative (12, 13). On the one hand, these answers represent that visitors have achieved the discourse of the virtual ship. On the other hand, their interpretations show that the cognition of metaphorical expression is multiple. Although their feelings and cognitions are multidimensional, they end up with a unified understanding of the narrative's core idea.

Tracking and counting is an effective way to observe visitors in museums. Although the questionnaire is a direct way to ask people's understanding and feeling, sometimes it is still challenging to get their honest thoughts because participants may guess the answer the research want, or they pick an answer without thinking. Except for investigating visitor's interpretations and perceptions directly through the questionnaire, the researcher also observed their movements in the museum for a whole day (22nd July 2019). The author mainly observed and tracked the visitor's detention time in each part during different periods. It can figure out which part of the narrative is more attractive to audiences. The opening time is from 10.00 am to 5.00 pm. The peak period for visiting the museum is between 12.00 pm and 3.00 pm, and the attendance decreased from 3.30 pm.

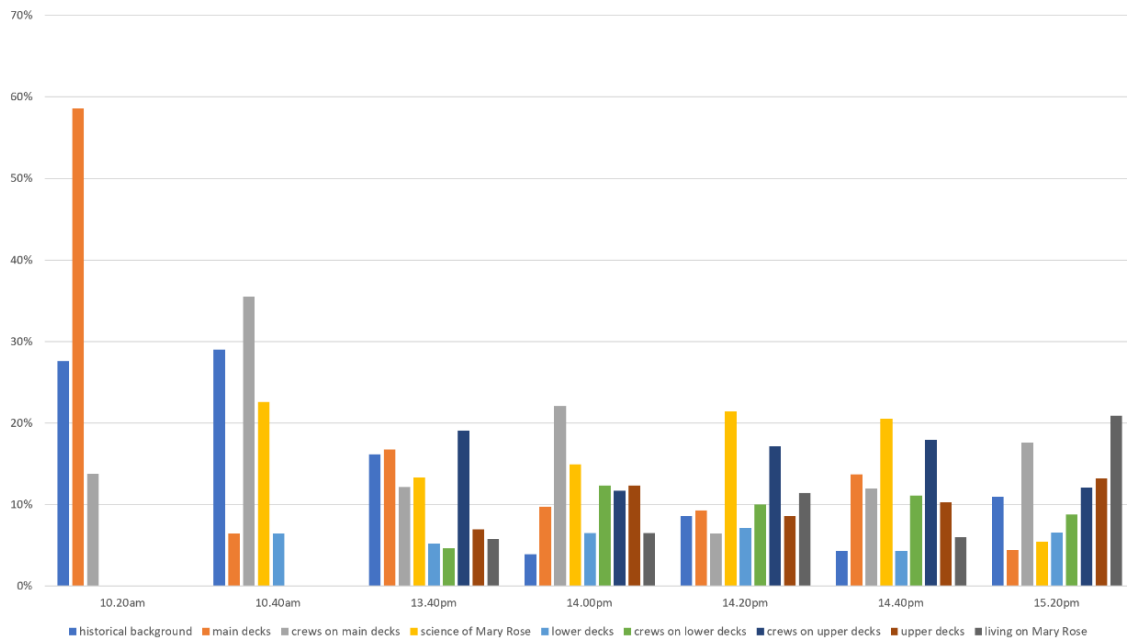


Figure 6.38 The visitor's movements in the museum (source: author)

Figure 6.38 shows the changes in visitor's movements. In the beginning, most visitors were attracted to the main decks soon after they entered the museum. Compared with the lower and upper decks, the main deck was where the visitors were most concentrated. And then, the visitors were separated into different galleries as time went on – the Science and Mary Rose, located on the lower decks, drawn visitor's attention (Figure 6.39). It assumes that it has a close relationship to interactive electronic devices that can learn more stories of Mary Rose and the crew members. It shows that the appropriate use of interactive devices in the narrative process of the museum can attract the attention of visitors, as well as help them to understand the stories and achieved more information in their own choices.



Figure 6.39 The interactive electronic devices and information counters (source: author)

The upper deck and its end gallery were also the areas where visitors stay relatively longer. Firstly, it owes to the spatial platform on the upper deck, where visitors can view the entire hull without any barriers (Figure 6.40).



Figure 6.40 The views from the upper deck and end gallery (source: author)

The author also observed and recorded several groups of visiting time (Table 6.6). The table below is a summary of the relatively complete and continuous movements among different groups. Group 1 was grandparents with their little girl, which visit routes followed with children's activities (45 minutes). Group 2 was four middle-aged people, and they did not track the visit route from the lower-ground floor to the upper floor by taking the viewing lift. However, they had a detailed tour of each narrative part than

other groups (77 minutes). Group 3 was the father who took his two daughters, and they spent most of their time in the science of Mary Rose (36 minutes). Group 4 was young couples with their children. They took the time to listen to the interpretation at the beginning of the exhibition. Their daughter was excited on the main deck, spending time going back and forth. They viewed all the galleries simultaneously, except for the upper deck and its end gallery (46 minutes). Group 5 was two young men, and they walked quickly through the whole museum (37 minutes). These five different groups represented different preferences during their visit. The main deck and interactive device of the end gallery on the lower deck were attractive parts, which were consistent with the previous assessment (Figure 6.38). As the audiences gradually get used to the narrative environment, they need new stimulations and experiences to attract their attention. Therefore, the Science of Mary Rose (on the lower deck) and the spatial platform on the upper deck became the places where visitors spend a longer time. This issue also reflects the requirements of architectural design. The consistency and invariance of spatial language will cause fatigue in visitors. Hence, the architects should make several changes according to the narrative in particular places.

Table 6.6 The complete observations of different groups (source: author)

Location	Narrative plots	Group 1		Group 2		Group 3		Group 4		Group 5	
		Time	Focuses	Time	Focuses	Time	Focuses	Time	Focuses	Time	Focuses
Ground floor	Historical background	3m	Staff explanation	7m	Battle of the Solent	4m	Staff explanation	6m	Background of Mary Rose	-	-
	Main deck	2m	The hull and gun carrier	10m	The hull and gun carrier; The shape of the hull	5m	The hull and gun carrier	8m	Going between bow and stern	5m	The hull and display
	Crews on the main deck	5m	Finding 'Hatch'	15m	The story of each crew	2m	Just 'Hatch'	7m	The carpenter, surgeon	4m	Roughly scan
Lower ground floor	Science of Mary Rose	10m	Interactive devices	12m	Facial reconstructio n of the crew	8m	A general view of each interactive device	5m	The geological layer of seabed	6m	Roughly scan; talking with staff
	Lower deck	1m	Passing through	4m	The video projected on the hull	3m	The cooking stove	5m	The video projected on the hull	-	Passing through
	Crews on the lower deck	4m	Finding treasure in small sandbox	7m	The story of each crew	2m	Roughly scan	3m	How the cooker worked	4m	The story of cooker and purser
First floor	Crews on the upper deck	7m	Weapons	-	-	2m	Roughly scan	8m	The weapons and daily supplies	5m	The officer and weapons
	Upper deck	3m	Watching the wreck	12m	Watching the wreck; Interactive device	5m	The video projected on the hull	3m	Watching the wreck and upper deck	7m	Interactive device
	Discovery of the crews	10m	Rest	10m	Rest; Watching video	5m	Rest	1m	Passing through	3m	Short rest

The story of the "ship" is conveyed from the interior narrative to the exterior manifestation of the building. 90% of the respondents agreed that they had experienced the hull shaped by the spatial discourse. Most of them found their understanding of the spatial narrative, which shows that building itself is integrated with the context of the exhibition.

Furthermore, the last open question investigated visitor's descriptions of the museum building to learn their interpretations of the architectural image symbols. As the following table shows, it coded the visitor's description of the building. Their understanding can be divided into five groups. 26% of the total respondents can describe the form of the building in a symbolic way, such as a ship, boat, oyster, rose, or flying saucer. Among them, 23% of visitors thought the building looked like a ship (or boat). The rest of them (74%) barely describe the expression of the building. One of the visitors claimed that "misleading from the outside look", which indicated most visitors have little awareness of the building's shape than their interpretation of the spatial narrative.

Table 6.7 Visitor's description of the building manifestation (source: author)

Groups	Description		Responses
1	Ship/Boat		23
2	Oyster/Rose/Flying saucer		3
3	Other description of the shape	Fluid/Flowed	8
		Dome	2
		Oval/Roundish	12
4	Concrete description		28
5	Don't know		24

The last open question shows that the more abstract the architectural form is, the more difficult for visitors to interpret its meaning. At least, the narrative-oriented metaphor can effectively communicate with visitors compared with the abstract expression of exterior form. Indeed, the architectural manifestation and its influences on interior display have always been discussed between architects and museum professions. Although most visitors overlook the shape of the building itself, it can be seen that the

narrative-oriented metaphor from the inside-out – the ship inside a ship still becomes the way to enhance visitors' cognition from the survey results of the Mary Rose Museum.

6.3.3 Result analysis

Based on the discussion and analysis in the above sections, the following conclusions can be drawn.

- Although the Mary Rose Museum is a simple building monomer, it considers the architect's discourse and influences visitors' cognition. The museum changed the original narrative approach – the ship and items were not exhibited in the same place. The new museum is centred on the shipwreck, where all the stories unfold. The spatial narrative consists of architectural and exhibition discourse, especially the "virtual hull" of the context gallery. It provides visitors with an immersive experiencing of the story of Mary Rose.
- The metaphorical expression based on the narrative context is scrutable to visitors. The unique aspect of the Mary Rose Museum is that it was designed from the inside-out. Through the mirror-image of the ship deck, the scale of the ship and the original conditions are vividly displayed. Hence, the museum's building, more specifically, the architectural/spatial language, becomes a part of the museum narrative. The whole museum creates a metaphor for a Tudor ship in its heyday.
- The Mary Rose Museum shows that the narrative form not only provides a visual experience, but also auditory, touch, and smell. Museum architecture is not only form and space, but also sound, light, sense that cannot be only evaluated by aesthetic and functional. For example, although the darkness partly affects the viewing, the visitor's feelings change following the colour variation, blue – yellow – dark. This visual change brings visitors different feelings, and some say they can feel the swaying on the ship.
- Most of the visitors can understand the spatial narrative is shaped as a virtual hull. Moreover, they established the cognition that the core idea of the museum is to bring them back to the moment Mary Rose sank. Not only that, they have offered different interpretations (see Chapter 6.3). The metaphorical

expression is an effective way to stimulate their feelings and understandings. Thus, the interpretation accessibility of the museum can be assessed directly from the visitor's survey.

- The crew's daily life and working conditions became the main narrative plots, which attracted visitors to resonance and comparison between historical and modern days. In short, the expression of architecture not only controls the visitor's route but also promotes their cognitions and resonance through the shaping of the narrative context.

Unfortunately, when the author wanted to visit the museum and reexamine the questionnaire, the museum was closed in March 2020 due to the coronavirus situation. Therefore, the data in this study may have some flaws to some extent. Besides the reexamination of the questionnaire, the author intended to interview visitors to talk about their opinions. For example, "how did you feel about this mirror image gallery?" and "how you tell the story of Mary Rose to others?" These questions can further collect the audience's interpretations of the museum spatial discourse and the narrative story, which contributes to evaluating the expression of narrative-oriented design.

6.4 Summary

The Mary Rose Museum illustrates the narrative story (signified) and how it conveys to visitors. To express the concept of the "time capsule" of the Tudor warship, the architects metaphorically design the building as a virtual ship. Simultaneously, the objects were displayed within a whole structure instead of separated from the hull wreck. The museum allows visitors to interpret each exhibit through the relationship between architectural discourse and exhibits display instead of labels and text beside each object. Based on the analysis of the narrative discourse, visitors can perceive the shape and the original location of the items on each deck. More importantly, the museum's narrative focuses on each crew on the ship. By telling their stories and recreating their lives on the ship, the audience can witness their ordinary lives across time and then learn about this period of Tudor history.

Instead of creating a symbolic museum building, the architects designed it from the inside out to restore Mary Rose. The spatial discourse of mirror-image and the location

of exhibits become an integrated story. Moreover, the crew member's stories have aroused visitor's imagination and resonance within the whole context (Table 6.8). The enclosed architectural space, the narrow context gallery, and the restoration of the ship items in the dim lights all of these discourse imply that Mary Rose constitutes a "war grave". However, the detailed stories of the dog Hutch, the carpenter's cabinet, and the crew's marked bowl bring the museum to life. By telling their stories and recreating their lives on the ship, the audience can imagine and resonate with their ordinary lives across time and then cognition the cultural identity of the Royal Navy. Thus, the hull of Mary Rose within the space becomes a document of national discourse.

Table 6.8 The discourse and story of spatial narrative (source: author)

Spatial narrative	**Encoding**			**Decoding**
	Gallery	Exhibits display	Architectural discourse	Visitor's interpretation
Explicit narrative (discourse)	Context gallery	Different light effects; Video projection on the hull; Specific sounds: whooshing of waves and the footsteps and dialogues of crews	Form of context gallery & the hull of Mary Rose; The "ship" of ship - from static to dynamic;	"It took me back to the ship of Mary Rose vividly." "Bit different. I can see they tried to make it feel like onboard, I think." "Felt like I was swaying on the ship." "Felt like I had vertigo at times, and a sense of movement like being at sea."
		Restoration of the main, lower and upper decks; The display of items such as cannons, arrows and other weapons in their original location on each deck; The location of stern and bow on each deck floor.	Virtual hull and footpath; Mirror-image (symmetry, scale, visual connections); The height and shape of each level;	"It showed the width of the ship." "It gave a sense of shape and size of the ship." "Walking back in history." "Led to an understanding of how the ship worked." "Gives you a good understanding of how the crew lived on board." "The sloping walkways were especially evocative!"
	Eastern & Western gallery	Story of crew's belongings in each showcase; Scientific discovery and interactive device;	Circulation and narrative structure; The visual connections between each deck; A sightseeing lift.	"Difficult to see due to low light." "It gave insight, greater meaning to each area."
Implicit narrative (story)	The enclosed architectural space, the narrow context gallery, and the restoration of the ship items in the dim lights, all of these languages also imply that Mary Rose constitutes a "war grave". However, the detailed stories of the dog Hutch, the carpenter's cabinet, and the crew's marked bowl bring the museum to life. By telling their stories and recreating their lives on the ship, the audience can imagine and resonate with their ordinary lives across time and then cognition the cultural identity of the Royal Navy.			

The Mary Rose Museum offered a glimpse of what it used to look like in the old shipyard more than 500 years ago. The following points summarise the discourse of the Mary Rose Museum:

- The architectural design provides the possibility of designing a museum from the inside out. Its metaphorical expression of the architectural discourse represents the combination between museum container and museum content in an integrated narrative context.
- The core idea of the narrative in flashbacks is to display the daily life and personality of sailors from different countries working on the ship instead of

telling the story of this tragic accident. The new museum commemorates not only the battleship itself but also five hundred soldiers who died on board. This theme can quickly establish a resonance with the visitor's experience.

In short, the metaphorical expression of a "ship" brings its architectural language to a target context of a museum with an essential function to lead the audience to perceive the story of Mary Rose and the way the crews' living on the ship. The visitors have already formed an integrated pre-knowledge of the internal structure of a ship. Hence, the architect enables the audience to perceive this mapping relationship through the spatial narrative and enhance the interpretation of the museum theme further. The visitor's survey also shows that most participants understood the discourse of virtual hull expressed through the context gallery. In other words, the narrative-oriented design improves visitor's cognition and understanding.

In terms of the cultural-historical museums in the B&R, the chronological order is not the only way to display exhibits, and the museum architecture is not just an envelope. As the author mentioned in section 2.3, the museum design in China prioritises architecture over the exhibition. The museum building is designed without considering the narrative's story, which leads the building to become iconic instead of part of the story merely. Similar to the spatial discourse of the Mary Rose Museum, the author believes that the narrative-oriented design from the inside out is an approach to provide an immersive narrative context for visitors. Moreover, telling the stories of people behind the objects in a specific context can resonate with visitors from different cultural backgrounds. The museum is not only establishing a connection between visitors and exhibits, but also for visitors and other groups.

Chapter 7

Ashmolean Museum of Art and Archaeology, Oxford, UK

The Ashmolean Museum is one of the earliest museums open to the public, and its extension building in 2009 has become a landmark for Oxford. The museum has been listed on the Art Fund Prize 2010 and the RIBA Stirling Prize 2010. It has broken the concept of a "museum" in a conventional sense via combining an art gallery with an archaeology museum in one place. Also, the narrative story of "crossing cultures, crossing time" has led the museum to become the *medium of intercultural dialogues*.

The museum spatially creates a narrative context of cross-cultures. As the author mentioned in section 2.1, the Silk Roads – especially the land routes, was cross-cultural encounters. It may arouse cultural distance and affect the development of B&R. Hence, museums are significant for the narrative of intercultural communication as cross-cultural contact zones. The narrative approach of the Ashmolean Museum becomes a reference for the "Belt". According to Christopher Brown, this thematic concept is "based on the simple idea that cultures interact with and influence one another"(Brown, 2010, p. 23). In this study, the Ashmolean Museum will be treated as a semiotic system to examine the spatial narrative and its narrative context, which has become the representative that illustrates the framework of *narrative-oriented metaphor*.

This chapter includes three sections. The first section provides an overall introduction to the background of the Ashmolean Museum, especially its changes from the temple of arts to the hub of cross-cultural convergence following by its architectural extension. Then, the second part will analyse the spatial narrative and its influences on the museum architectural discourse from the inside-out. The third section examines the metaphorical system and its contribution to communicating the narrative of museum contents to visitors from different cultural backgrounds. The methods employed are field study, observation, and survey.

7.1 Background of the Ashmolean Museum of Art and Archaeology

7.1.1 The site and social context

The location of the Ashmolean Museum of Art and Archaeology – Oxford is famous for its oldest university. The foundation of Oxford can be traced back to the ninth century, and it was an Anglo-Saxon mediaeval town before it became a famous university town. During this period, the manufacture was flourished since the twelfth century with leatherwork development (Lambert, 2019). Following the decline of manufacturing since the sixteenth century, Oxford's economic development relied heavily on the university. Thus, the university's decisions will profoundly impact the region, which laid the foundation for establishing the Ashmolean Museum.

Beaumont Street, the site of the Ashmolean Museum (Figure 7.1), was always crucial since the mediaeval age. The western Beaumont Street used to be the Beaumont Palace for the royal hunting lodge of Henry II (Admin.ox.ac.uk, 2012). This area was converted into a private residence under Edward I (1275) and a monastery under Edward II (1318), respectively. And then, it became a site of college during the post-mediaeval period. Since 1820, Beaumont Street was developed in response to the expansion demand, and new houses were built (Tyack, 1998). With the construction of the University Galleries in 1839, Beaumont Street became an essential area to Oxford.

Four major museums were established in the Oxford area. They are the Oxford University Museum of Natural History (1855), the Pitt Rivers Museum (1884), the History of Science Museum (which was the origin of the Ashmolean Museum in 1683) and the Ashmolean Museum of Art and Archaeology (Figure 7.2).



Figure 7.1 The location of the Ashmolean Museum of Art and Archaeology

(source from https://www.scribblemaps.com/ and edited by author)



Figure 7.2 Museums in Oxford (source: author)

The history of the Ashmolean Museum is inseparable from the other three museums. The first part will begin with the background of Ashmolean to analyse its urban contexts and its changes underline the social requirements. It starts with establishing the original Ashmolean Museum on Broad Street, then combined with the University Galleries, the Ashmolean Museum of Art and Archaeology is built and developed in the long history of Oxford.

7.1.2 The history of the Ashmolean Museum

7.1.2.1 The Old Ashmolean Museum & University Galleries

The Old Ashmolean Museum was opened to the public in 1683. It was established to conserve Elias Ashmole's donations (1677), including botanical, geological, and zoological specimens and artefacts inherited from the Tradescant family. In the early seventeenth century, John Tradescant, the English naturalist, gardener, collector and traveller, began to collect rare items and plants in Europe, Russia, American and even Africa (Brown, 2010). Under the influences of Walter Cope's Continental cabinets, Tradescant built his cabinet in the 1620s. The collections were kept in London at Lambeth, including rare natural history specimens such as a Dodo and anthropological items acquired from Native Americans or other places (Figure 7.3).



Figure 7.3 "The Ark" at Lambeth in London (Brown, 2010, P.7)

Afterwards, Tradescant the younger published the catalogue of collections in 1656 *Musæum Tradescantianum: or, A collection of rarities: Preserved at South-Lambeth neer London*. Their collections were mainly divided into the natural and the artificial categories with the help of Elias Ashmole and Dr Thomas Wharton (Impey and MacGregor, 2001). For example, the birds and their characteristics (such as eggs and feathers), the fish and other marine animals (such as sea horses and whales), shell creatures and fossils (MacGregor, 2001, p. 126). Although the classification was not as detailed as today, it became the primary scientific source for the University of Oxford after Elias Ashmole donated them formally in 1677 (Figure 7.4).

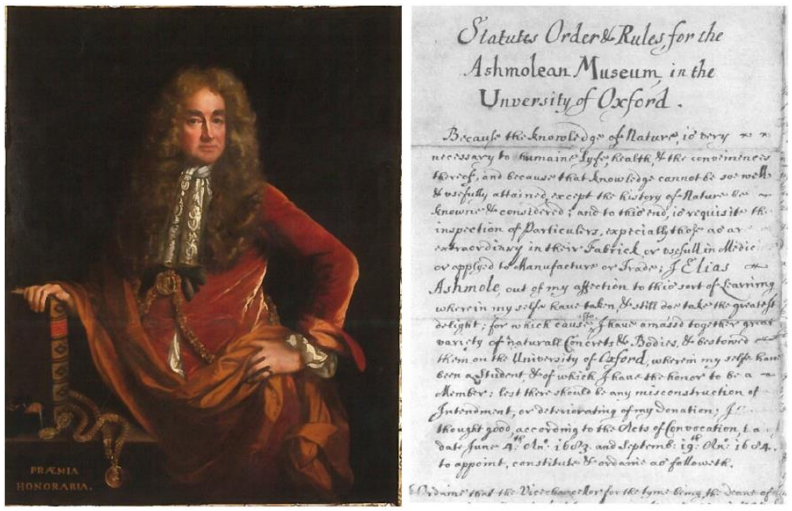


Figure 7.4 Elias Ashmole (Brown, 2010, p. 9) and his draft for the administration of the Ashmolean Museum, 1686 (MacGregor, 2001, p.127)

Dr Robert Plot was the first keeper to receive Ashmole's donation document:

> Because the knowledge of nature is very necessary to humaine life, health, & the conveniences thereof, & because that knowledge cannot be soe well and usefully attained, except the history of Nature be knowne and considered; and to this end, is requisite the inspection of Particulars, especially those as are extraordinary in their Fabrick, or usefull in Medicine or applied to Manufacture of Trade. I Elias Ashmole, out of my affection to this sort of Learning… I have amass'd together great variety of naturall Concrets and Bodies, and bestowed them on the University of Oxford.[90]

[90] Arthur MacGregor. The Ashmolean as a museum of natural history,1683-1860. *Journal of the History of Collections*. 2001. 13(2). p.127.

Elias's donation represented the collections had transformed from private cabinets to the public domain, even before the term "*museum*" was defined in 1706.[91] The original museum – Old Ashmolean, located in Broad Street (Oxford), is the Museum of the History of Science today. The museum building was built at Ashmole's request to protect the collections (Figure 7.5). [92] This museum was recorded in the diary of a young aristocratic German traveller, Zacharias Conrad von Uffenbach (1683-1734). He said, "the specimens in the museum might be better arranged and preserved, but it is surprising that… even the women are allowed up here for sixpence" (Brown, 2010, p. 10). This record provides evidence that the museum opened to the public area at that time. All of the people, based on the description, including women, servants, and country peoples, have the right to access and visit the museum as long as buying tickets.

Moreover, the Old Ashmolean was also a research institution for natural philosophy. It contained a display area on the top floor, a lecture hall for studying natural history on the ground floor, and a chemical laboratory for experimental research in the basement (Impey and MacGregor, 2001; Macclennan, 1987; Guardian, 2009b). The establishment and development of the Old Ashmolean Museum marked the formation of the public use of resources in place of private collections.



Figure 7.5 The entrance of the Old Ashmolean(Brown, 2010, p. 8); The display in the Old Ashmolean (Walker, 2014, p.263); Museum of the History of Science (source: author)

University Galleries was also closely associated with the Ashmolean Museum. The University of Oxford purchased the site from Worcester College in 1839 (Guardian,

[91] The Ashmolean Museum, Oxford. Available at: http://ashmole.com/ashmole-museum/. Accessed date: 24th Oct 2019.

[92] *Ibid.*

2009b). The gallery was built for displaying the university's art collections donated by Lord Eldon (1830). The museum's construction was made possible by donations from the Reverend Francis Randolph (Rector of St. Alban Hall) and Sir Robert Taylor (a renowned architect). At the same time, Sir Robert Taylor intended to establish an institution that would also improve modern European languages. The intention was conceived by Philip Bliss (the University Registrar), and he proposed the scheme to combine the art galleries with Taylor institution (Admin.ox.ac.uk, 2012; Tyack, 1998):

- Two institutions designed to integrate Grecian characteristics;
- The distinct internal arrangement between two institutions.

Subsequently, Charles Robert Cockerill - the most creative English architect, archaeologist and writer - won the competition and designed the University Gallery and Taylor's College Library between 1841 and 1845. According to the initial requirements, Cockerell designed a "neoclassicism" building by adopting a more sculptural and expressive Baroque style (Tyack, 1998, pp. 205-207). [93]

The whole building was built as a "temple of arts" with a typical form of symmetry (Brown, 2010, p. 11). The Ionic portico in the front of the main entrance faced with Beaumont Street and the pediments on the south façade expressed Cockerell's preference for classical ornaments (Figure 7.6). Further, the step-in entrance of the building shows the solemnity and power of the building. The neoclassical façade has become Cockerell's representative work in the nineteenth century.

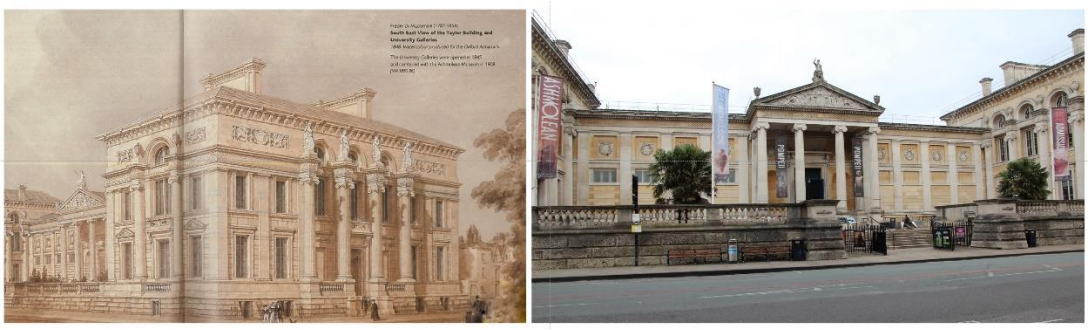


Figure 7.6 The University Galleries (Brown, 2010, pp.14-15) and the Ashmolean Museum (source: author)

[93] The neoclassicism is a popular style of public building in the early nineteenth century, which was characterized by Greek and Roman-influenced styles, geometric lines and order.

The entire plan of the building was classically symmetrical, and the main entrance hall was in the middle of the ground floor. The whole gallery is an "L-shape" space with approximately one-room depth, and two grant staircases were built at each east and west side of the building (Figure 7.7). The sculptures were displayed in the *Randolph Gallery* on the ground floor, while the paintings and artefacts were on the first floor and the west wing. In addition, a large number of niches were embedded in the Randolph Gallery (Figure 7.7).

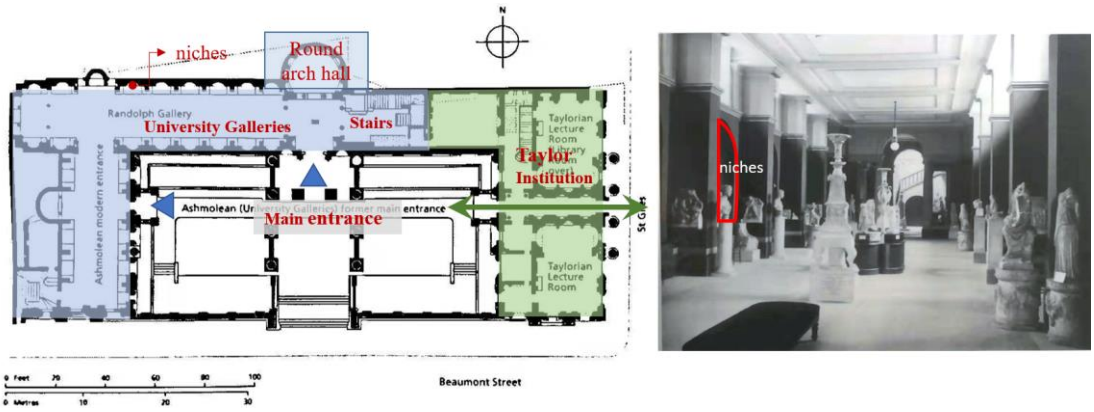


Figure 7.7 The Ground Plan of University Galleries and Taylor Institution; The Randolph Gallery (source from Tyack, 1988 pp. 206-207, and edited by the author)

The architectural elements include Greek, Roman and Renaissance styles, which were clearly shown by the ornaments. Cockerell believed that the ornaments of architecture were representative and communicative, and he attempted to show his view of ornaments in practice. For example, the Ionic column orders, the frieze and the pediment (Figure 7.8) were derived from the Temple of Apollo at Bassae (Cooper, 1968; Walker, 2014). The concept of the building as a "temple of art" also represented Cockerell's respect for the Temple Apollo Bassae. It expressed the architect's interpretation of neoclassicism and adapted to the context of the time.

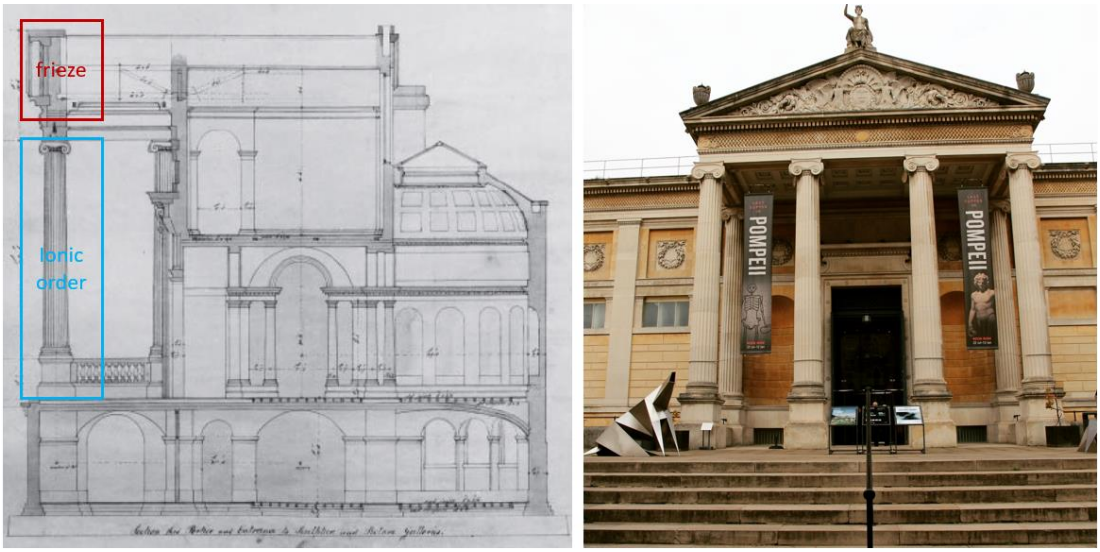


Figure 7.8 The section of the University Galleries (Admin.ox.ac.uk, 2012) and its preserved Ionic order (source: author)

So far, the Ashmole Museum has evolved through two segments, the Old Ashmole cabinet of curiosities and the two-storey University Galleries. At this stage, the Old Ashmolean and the University Gallery still existed independently. Furthermore, the University Gallery was a place for the display of paintings and sculpture rather than archaeology.

7.1.2.2 The expansion and merger of University Galleries

Since the early 18th century, the management decided to turn the Old Ashmole Museum into a natural science museum. The Tradescant collection and other man-made objects, therefore, needed a place to be preserved and displayed. The university members planned to establish a museum of archaeology and art in 1878 (Macclennan, 1987). According to the official *Construction Plan of the Ashmolean Museum*, the old expansion process had three main phases to accommodate different periods (Figure 7.9).

- During 1886-1888, there was a small extension to the north side of the University Galleries to store more antique sculptures, paintings and drawings.
- The main extension between 1892 and 1908 was to preserve the artificial objects transferred from the Old Ashmolean.

- After 1908 there were more extensions and demolitions to meet the demands of the display, research and education. And the renamed Ashmole Museum of Art and Archaeology became a showcase for intercultural and diverse art.

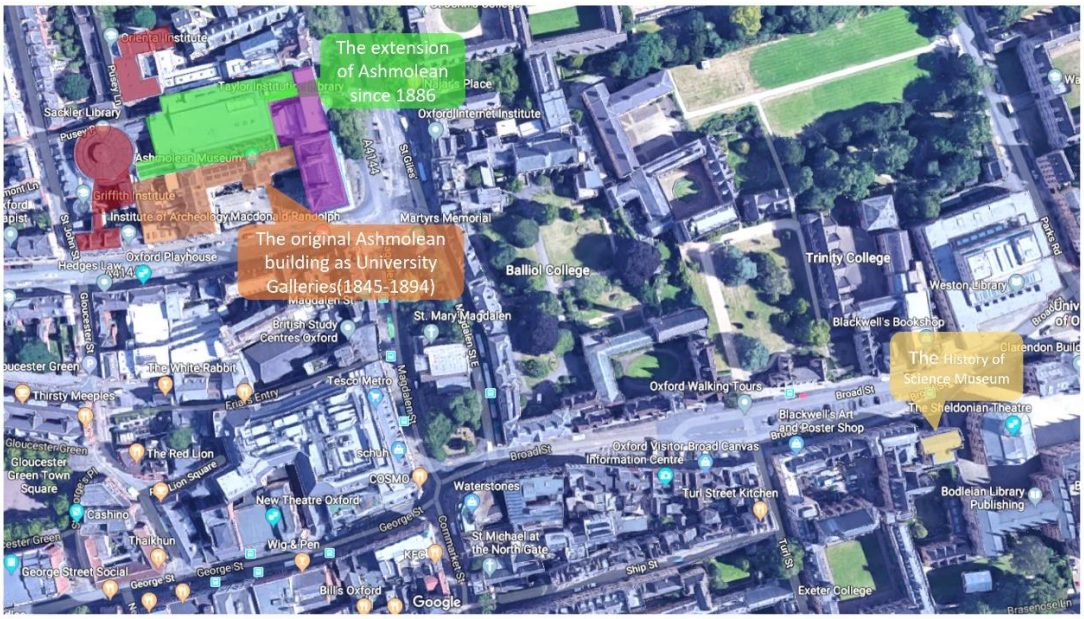


Figure 7.9 The Ashmolean Museum and its surrounding buildings[94] (source from Google Map)

The first phase began in 1884 when the University purchased the land behind the University Galleries, which allowed an extension to the museum. Between 1886 to 1888, Harry Wilkinson Moore added two new galleries to the north of Cockerell's building – one for archaic Greek sculptures. The other one housed fifth-century statues with a lecture hall and library (Admin.ox.ac.uk, 2012). In contrast to these two extensions (Figure 7.10), the domed hall with niches on the north axis of the University Galleries was demolished and replaced by industrial sheds with an undistinguished form (Guardian, 2009a).

[94] Note: The highlighted orange is original Ashmolean as University Galleries, and the green is the extension part which is reconstructed since 2006; the purple is Taylor Institution Library; the red is Oriental Institution (1958), Institution of Archaeology and Sackler Library (2003) respectively; and the yellow is the Old Ashmolean (History of Science Museum today).



Figure 7.10 The extension part during 1886-1888 on the left (edited by author); and extension between 1892 and 1894 on the right (Admin.ox.ac.uk, 2012, pp. 19-20)

7.1.2.3 The establishment of the Ashmolean Museum of Art and Archaeology

The second expansion phase was a significant turning point of the museum's development led by Arthur Evans (the Keeper 1884-1908). He was attracted to the Ashmole's collections and planned to display them by constructing the extension buildings to University Galleries (Admin.ox.ac.uk, 2012). The first stage of the expansion was replaced in order to house the Old Ashmolean's collections. Also, the museum keeper and other managers from the University of Oxford collected vast amounts of archaeological objects from Britain, Europe, the Mediterranean, and Egypt. By completing the third expansion phase, the "Ashmolean Museum of Art and Archaeology" was named in 1908. The arts and artefacts from different cultures were integrated into the same building, which allowed visitors to explore the exhibits the art while touring other archaeology (Admin.ox.ac.uk, 2012; Brown, 2010).

The museum had undergone several changes to meet more functional requirements, such as the construction of a photography room and staircase between 1922 and 1938. In addition, E. Stanley Hall finished an intense extension during the 1930s, including the West lecture room, Griffith Institute, and the wing along the Beaumont Street (Admin.ox.ac.uk, 2012). Following the construction of extension between the 1950s and 1970s (Admin.ox.ac.uk, 2012), the Ashmolean Museum completed a series of galleries, including the Egyptian Gallery (1957), the Cast Gallery (1959) and the MacAlpine Gallery (1973).

From 1997 onwards, the museum's collections were expanded from Europe to Asia. For example, a gallery of Japanese decorative arts was opened on the ground floor, and a gallery of Chinese paintings was set up between 1999 and 2000 (Figure 7.11). The museum began to display a wider range of collections from different cultures, which sets the stage for future transformation. In addition, a café and a shop have been added to the lower level to encourage visitors to stay longer in the museum.

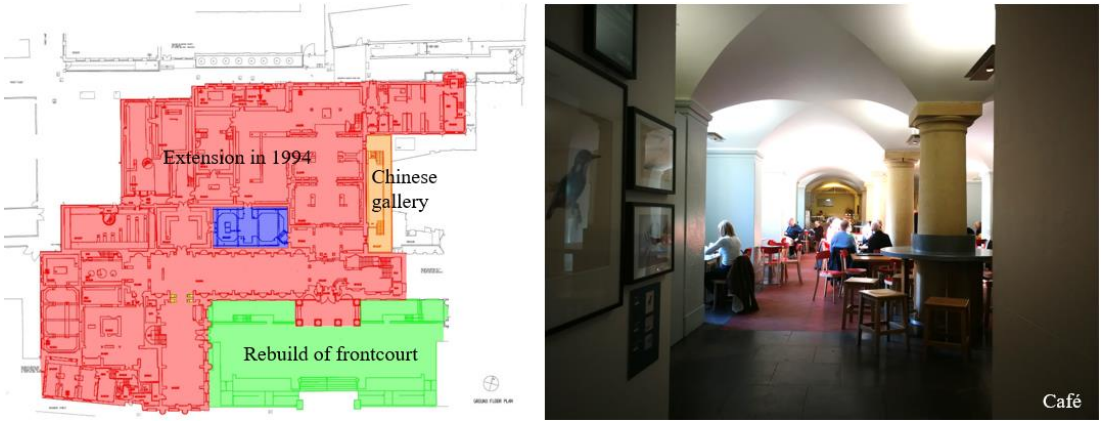


Figure 7.11 The changes before 2000 (source: Admin.ox.ac.uk, 2012, p.26); underground café (source: author).

It was not until 1998 Dr Christopher Brown, the director of the Ashmolean Museum and an expert in Dutch and Flemish painting, decided to renovate all the previous extensions to give a modern interpretation of the museum's collections. This new extension increased the number of visitors from 300,000 to 1,200,000 in its first year of operation (Walker, 2014, p. 257).

7.1.3 The new extension of the Ashmolean Museum since 2009

The Ashmolean Museum, like other museums, faced a social issue – a social inclusion policy introduced in 1997, as described in section 2.3.1. It required the museum, galleries, sports facilities and other public institutions to attract more people who had never been to these places before (Walker, 2014, pp. 266-267). Its renovation aimed to improve the outdated structure and attract a diverse audience from different cultural backgrounds, including general visitors, museum specialists and visitors, schools and families, with a rich collection of objects.

The new expansion project had to meet a complex social context. On the one hand, the University of Oxford is the oldest and most respected university in the UK. The museum needed to meet its academic status. This is also highlighted by the survey of

visitors (in section 7.3), with most respondents coming from Oxfordshire and having a high level of higher education background. On the other hand, according to the census data in 2011, Oxford has become a city with a multi-ethnic population.[95] The new design needs to cater for visitors from different cultural backgrounds.

Its single large extension was renovated by Rick Mather (1937-2013), an architect with extensive experience in museum expansion work. Building on a series of previous additions, the museum was reconstructed between 2006 and 2009. The demolitions of the north extensions (the extension of 1886-1888, 1889, and 1892-1894) provided sufficient space for the alterations interlinked with the Cockerell's building. As Brown said:

> It is a significant departure from the rigid geographical and chronological divisions of older museum presentation, and it has opened up an opportunity to look in new ways at our collections and how we display them.[96]

The museum's boundary was redefined (Figure 7.12), but the University Galleries facing Beaumont Street was not allowed to be altered as it was already listed as a heritage building. This original part of the building tells the story of what the Ashmole Museum was initially meant to be - a temple of art. It also maintains the relationship between the main entrance and its surroundings.

Cockerell's building is linked to the local historical context, and the new building was designed to interpret the objects in a new context. The original building allows visitors to experience the history of the city, while the new extension rearranges the exhibits to create new memories. The magnificent Greek walls and porticoes have been preserved, and a five-storey building of over 30 galleries has been constructed in a regular grid form, hidden behind the University Galleries. In addition, the extension required improvements to the museum's growing functional requirements, such as disabled access, a learning centre, a rooftop restaurant, extended storage, equipment

[95] Ethnicity (2011 UK Census). Oxford City Council. Available at: https://www.oxford.gov.uk/info/20131/population/462/ethnicity . Accessed date: 24th Oct, 2019.

[96] Christopher Brown. Ashmolean: British's First Museum. Ashmolean Museum. 2010, p.1.

facilities and offices for staff. The "treasure box" was therefore designed from within, hidden behind the main façade (Figure 7.12).



Figure 7.12 The model of Ashmolean Museum (source from world architecture news[97]) and a glimpse of the new building from staff entrance (source: author)

From neoclassical architecture to modernism, the museum extends on two north-south axes, each intersecting with an east-west axis (Figure 7.13). The transitional space links the new extension building to the old. Rick Mather adopted three different spatial heights vertically to interact and match with the different floors of Cockerell's building. The central atrium and the secondary atrium are located on two north-south axes. (Figure 7.13), echoing the existing building. The architect recreates a double-height glazed entrance that directly views the central atrium.

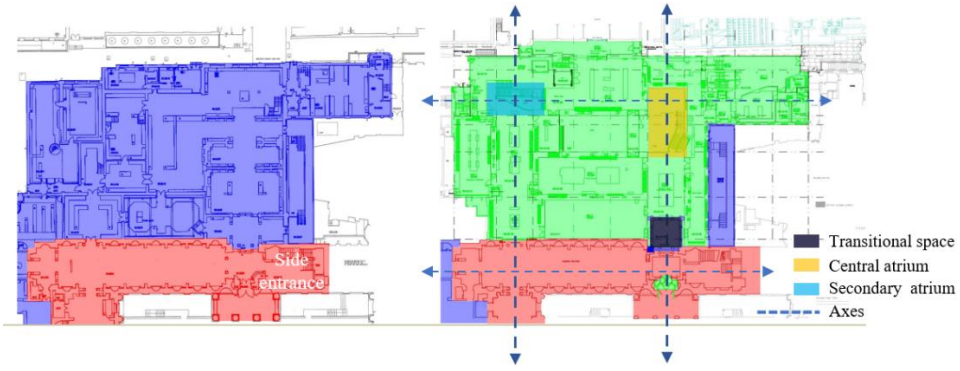


Figure 7.13 The comparison between the old extension of the museum and reconstruction by Rick Mather (Admin.ox.ac.uk, 2012, p. 28)

[97] Ashmolean to open its doors. Available at: https://www.worldarchitecturenews.com/article/1502919/ashmolean-open-its-doors, Accessed date: 14th April, 2020.

The museum design highlights the "free-flowing cultural exchange of globalisation" (Hall, 2009). For example, visitors can view Islamic porcelain, Chinese ceramics and European sculpture from different perspectives at the same time (Figure 7.14).



Figure 7.14 the views glimpse to the central atrium (source: author)

In other words, the new extension building is a cultural convergence place. The interlinked spaces provide different viewing windows for the audiences and encourage them to roam and explore inside the building. As Rick Mather said:

> We carried out detailed historical research to establish what was important to save. Cockerell's original design is complemented both in plan and section by a "U" of similar scale double-height galleries, which link his two axes together through the extension… The high galleries and footbridges open into them and long views link the extension back to Cockerell's original building.[98]

In short, the Old Ashmolean Museum, which opened in 1683, was based on natural and ethnographic collections. The University Galleries, on the other hand, built-in 1845, was a temple of art that focuses primarily on artistic rather than cultural-historical values. Until 1908, the old Ashmolean Museum and the University Galleries were blended and became the museum of art and archaeology.

With the new expansion of the museum since 2009, the museum has developed into an intercultural context, emphasising the connections between different cultures. Both the form, function and narrative context of the museum has been changed. Starting

[98]Jay Merrick. The Ashmolean Museum of Art and Archaeology by Rick Mather Architects. Available at: https://www.architectsjournal.co.uk/home/the-ashmolean-museum-of-art-and-archaeology-by-rick-mather-architects/8606420. Accessed date: 10th Apr, 2020.

with the museum's story - "crossing cultures, crossing time", the following section focuses on the spatial narrative and its relationship with the architectural discourse.

7.2 The analysis of museum narrative and its expression

7.2.1 The museum architecture in the urban context

As mentioned in the last section, the main façade of the museum remains Cockerell's design, echoing the surrounding environments (Figure 7.15). In particular, its classical decorations stand in stark contrast to the Gothic-style Randolph Hotel across the road.



Figure 7.15 The surrounding buildings of the Ashmolean Museum (source: author)

As the new construction is hidden behind Cockerell's building, it is worth discussing the meaning carried by ornaments of the original building. In the present context, it represents a symbolic meaning that traces the history of the building itself. Cockerell treated classical elements as the cultural signified instead of merely decorative language. As he said:

> The Greek made sculpture the chief attraction of their Temples & the foil by which the arches was appreciated and in our own country who can resist the extreme interest developed in the front of Well's cathedral storying as it does the whole substance of revelation![99]

Cockerell defined a relationship between ornaments and the essence of the building. He also attempted to find a balance between traditional ornaments and the language of modern architecture. According to Cockerell, the role of ornament is representative and communicative (Bordeleau, 2009; Bordeleau, 2014), meaning that visitors can be guided by ornaments into the buildings and the context in which it is located. He

[99] Anne Bordeleau. Charles Robert Cockerell's architecture and the language of ornaments. *The Journal of Architecture*. 14(4). p. 470.

proposed a binary concept: the *book metaphor* and the *language metaphor* to define his idea of architectural ornaments (Bordeleau, 2009; Bordeleau, 2014). In his opinion, the *book metaphor* represented "comparing the art of architecture to an epic of human history"(Bordeleau, 2009, p. 467), while the *language metaphor* explained "how this history could effectively be communicated to observers" (Ibid.).

Moreover, Cockerell agreed with Victor Hugo's opinion in *Notre Dame de Paris* (1831) – the potential disappearance of architecture, meaning the culture and history can be preserved through books instead of architecture. The typical characteristics of book and architecture are cultural preservation and its accessibility. Buildings would disappear, but they can be recorded through text. To solve this problem, Cockerell hoped to find a "language" that can record history, just like books. Hence, he developed the "historical conception of architectural imitation" through ornaments (Bordeleau, 2009, p. 467).

However, contrary to the historical record in books, Cockerell's concept is neither an imitation of the past nor the present, but an experiential narrative of the present. It fills the gap between history and the present with the language of the current architecture. For example, he considers the words of a text to be similar to the constituent elements of architecture. Cockerell compares the role of language to that of ornamentation and focuses on the meaning it expresses.

The Ashmolean Museum is Cockerell's representative application of his ornaments theory. The portico at the museum entrance is the most striking sign of Cockerell's respect for the Temple of Apollo at Bassaen (420 BC) (Figure 7.16). Different from the British Museum's eight-column entrance, the portico of the Ashmolean Museum is small and elegant. It has a colonnade of Ionic columns and the earliest known Corinthian column at one end. With the portico, pediment and decorative wreaths, the building itself and its surroundings show the record of history at this moment. These elements are not only copies or imitations of classical symbols, but also create memories for people from different cultural backgrounds. It will become a *sign* in their minds.

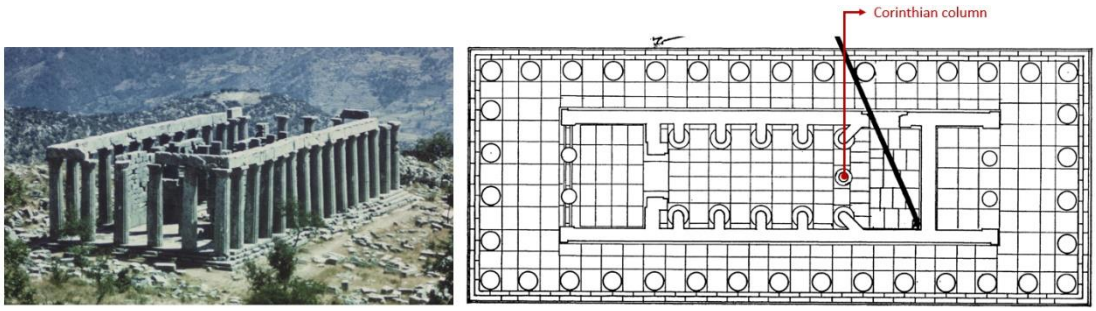


Figure 7.16 The Temple of Apollo at Bassae and its plan (Cooper, 1968, p. 104)

Back to the building itself, the views of the building are different as the visitor's movement. The steps of the main museum entrance allow visitors to observe the south façade from far to near, from the whole to details (Figure 7.17). Once visitors enter the boundary of the museum, their interpretations of the museum began. On the one hand, the understanding and cognition of these ornaments are based on the visitor's pre-existing knowledge and moving line. The ornament's view shift and express differently as the visitor moving along the building, and it evokes the visitor's sense of history.



Figure 7.17 The changing views of the Ashmolean Museum exterior façade (source: author)

On the other hand, these changing views unconsciously shape the visitor's movements and experience. Hence, the story of the building is interpreted during the visitor's activity through the sense of its ornaments. However, the museum attracts people not

only through the manifestation of the building itself, but it is also what hind behind the double-height glazed door. The museum provides an example of the reconstruction of the museum building. It also shows how museums construct the relationship between architecture and exhibition narrative. Different from the linear storyline of the Mary Rose Museum, the Ashmolean Museum creates a free choice movement for visitors to explore the narrative of other cultures.

7.2.2 The explicit narrative on the *expression* level

7.2.2.1 Brief introduction

The story of the Ashmolean Museum building gradually changes, in line with the museum's identity and social needs. From a cabinet of curiosities to a temple of art, it eventually became a cross-cultural medium. It became one of the examples to explore how the architectural discourse changed following the way of narrative. All the design and organisation of new galleries manifest the concept of "crossing cultures, crossing time"(Brown, 2010, p. 23). As Bayley commented in *The Guardian*,

> It is an intellectual narrative that complements the architectural circulation: thus, the Ashmolean's director, Christopher Brown, draws attention to Gandhara culture which produced Buddhas dressed in Roman togas. I suppose you could call it multiculturalism.[100]

The task of reinterpreting the objects in the new extension building was designed by Metaphor – a specialist in the museum display. The designers provided a new approach for the narrative of the objects connected to its architectural discourse, which breaks the conventional style and stereotyped views of cultural display. The design group visited numerous completed projects to seek inspiration for the collections display, lighting and spatial language (Walker, 2014). As Susan Walker, one of the curators engaged in the project, described, they had visited the Museum of Byzantine Culture in Thessaloniki and the Shanghai Museum. One of them displays the large objects in

[100] Stephen Bayley. The Ashmolean Museum, Oxford. Available at: https://www.theguardian.com/culture/2009/nov/01/ashmolean-museum-rick-mather-reopening . Accessed date: 10th Apr, 2020.

the open centre of galleries, and the other has shown installation for objects (Figure 7.18).



Figure 7.18 Museum of Byzantine Culture in Thessaloniki (source from Greek City Times[101]) and Lacquer art in Shanghai Museum (source from shanghai museum. Net[102])

Similar to the Museum of Byzantine Culture built around the heritage site, the visitors can be attracted to a dead-ahead vast plaster cast of Apollo at the central atrium once they get into the Ashmolean Museum. It stands as tall as a two-story building, making the central atrium a dramatic space (Figure 7.19).

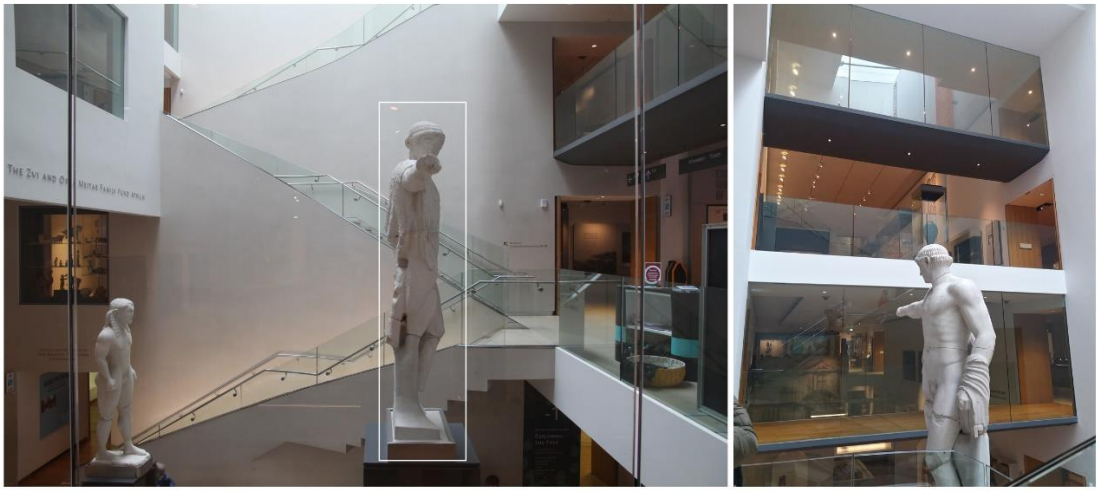


Figure 7.19 The vast plaster cast of Apollo stands in the central atrium (source: author)

This section will analyse the construction of the narrative context of the new extension building and its relationship with architectural discouse. More importantly, narrative-

[101] Source from https://greekcitytimes.com/2018/09/28/museums-and-archaeological-sites-across-greece-open-to-the-public-for-free/. Accessed date: 16th Apr, 2020.

[102] Source from https://www.shanghaimuseum.net/museum/frontend/articles/I00004177.html. Accessed date: 16th Apr, 2020.

oriented metaphor – as the approach of communicating the story of narrative, will be examined from explicit and implicit perspectives.

7.2.2.2 The explicit narrative on the *expression* level

In addition to the symbolic significance of museum manifestation, it is crucial to examine how architectural discourse becomes part of the narrative. The language of architecture and its connotative meaning in the narrative context is the focus of this study.

The explicit narrative refers to the spatial narrative on the *expression* (signifier) level. First of all, the openness of the central atrium and the secondary atrium in the new extension building provides visual encounters and interlinks both from horizontal and vertical perspectives, making the whole building into a three-dimensional narrative context. The explicit narrative is mainly analysed through the spatial layouts and its physical object's display at the horizontal level, the feature of the central atrium at the vertical level, and the details of materials and light of the atmosphere.

Spatial layouts – horizontal connections

To explore and analyse the narrative core – "crossing cultures, crossing time" conveys through architectural discourse horizontally, the author has made several field trips. The mapping of each floor (see Appendix) marked the relationship between objects' display and spatial discourse from different views. The author explored, photographed and recorded the whole museum following the guide map on the Ashmolean Museum's website, then edited the records and their relationship with the spatial language via Photoshop. The mapping of each floor helps to analyse and investigate the narrative structure of the museum and the relationship to the spatial narrative.

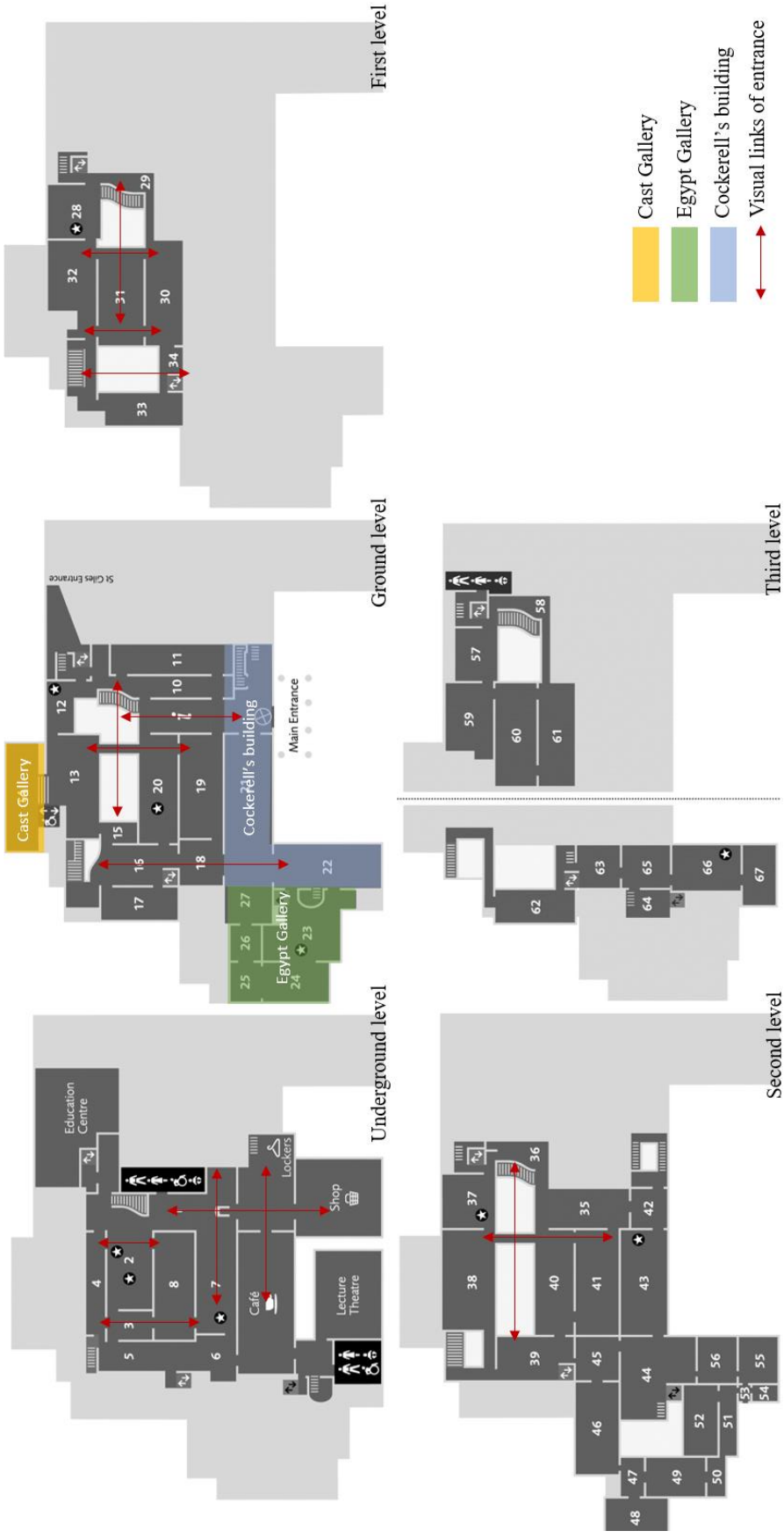


Figure 7.20 The guide map provided by the Ashmolean Museum (source from the website of the Ashmolean Museum and edited by author)

From an overall perspective, the Cockerell building's two-storey galleries remain art and sculpture displays. The classical Greek and Rome sculptures were displayed on the ground floor of the Cockerell building, which closes to the ancient Egypt Gallery (Figure 7.21). The Renaissance paintings, drawings and other European artefacts were arranged on the second floor of Cockerell's building. Other collections were displayed in a *new context* to demonstrate the links between different cultures in a geographical sequence from east to west. The narrative structure began with Aisa and South Asia, then encounters with the Middle East and the Mediterranean. Finally, it toward to the cultures in Europe.

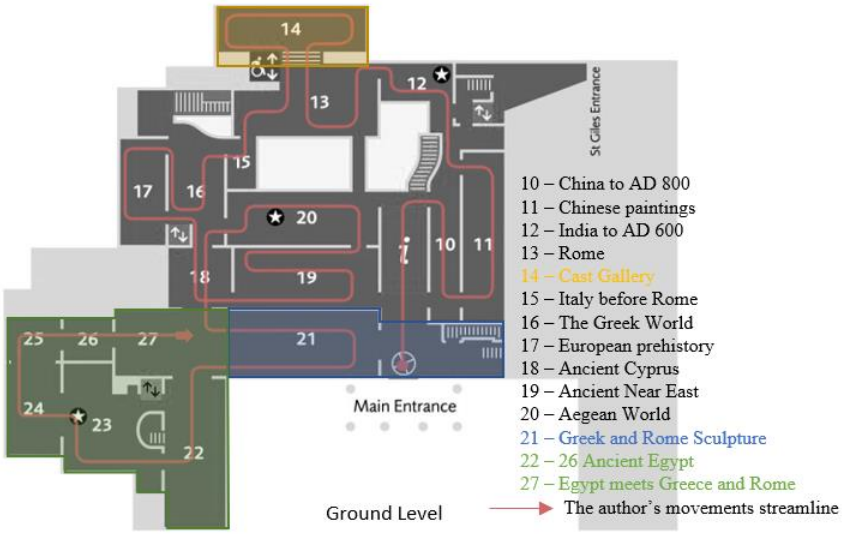


Figure 7.21 The author's visit routes on the ground floor (source from the website of the Ashmolean Museum and edited by author)

In terms of the object's narratives, the museum curators were experts of collections. They take the responsibility to introduce the facts and truths of each object on their expression level. However, these exhibits need to be interpreted to a broader public. Hence, the role of spatial narrative is to construct a meaningful *context* for the object's arrangement and organisation. From the perspective of the plane sequence, the visitor enters an orientation gallery that introduces each level's background first. Then they can explore how the cultural and social changes in different cultures. Within the established environments, the objects can be extracted from traditional contexts and achieve an integrated meaning. There are the following features that represent the cross-cultural connections horizontally.

First of all, the narrative of the entire museum is a layered structure. Each layer is set up with a logical route to conveying information about the exhibits in different cultures. Related galleries are linked horizontally and vertically to highlight themes across cultures. The orientation galleries on each floor encourage visitors to plan their own movements in different cultures. This concept has been carried through to each floor of the new extension. This study, therefore, focuses on the galleries on the ground and ground floors as an example of the spatial layout and narrative of objects.

The galleries on the ground level (Figure 7.21) mainly divides into four parts according to the construction time. It gives a brief introduction to the history and cultures in Asia, Europe and the mystery of ancient Egypt.

The exhibition theme of Chinese cultures begins with pre-dynasty (Figure 7.22). It presents a representative collection, particularly the story of writing development, from the animal bones on which the oracle bones were recorded to texts written on stone, bamboo, silk and paper. Moreover, the bronze, ceramic and jade artefacts discovered from Shang, Zhou, Han and Tang dynasties are also classified. These various objects are mainly found and recovered from the ancient tombs. One of the greenware ceramics is famous for its donator – Sir Herbert Ingram (in 1956), and it was collected during his honeymoon in China.



Figure 7.22 The objects of Chinese collections: the left is the greenware donated by Sir Herbert Ingram; the middle is the ceramics in glass showcase; the right is the overall scene of the Chinese gallery (source: author)

The architect shows the connection of different cultures through the details of spatial discourse. For example, the Greek sculptures in the central atrium can also be seen through the display cases of ceramic objects from the Han and Tang dynasties (Figure 7.23).



Figure 7.23 The showcase of the ceramic artefacts of the Chinese gallery (source: author)

Through a small gallery telling the story of Indian art in the *Indus Valley*, it connects to the galleries of ancient European countries and the additional Cast Gallery. In the Roman gallery from 400 BC to 300 AD, the collections consist mainly of everyday objects of the Romans. In addition, it contains objects representing Roman life in Oxfordshire's history. It is not only about the story of each artefact, but also expresses information about the skilled craftsmen behind the various artefacts.



Figure 7.24 The Indian gallery; Rome 400BC-AD300; and the Cast Gallery (source: author)

The *Cast Gallery* was initially formed in 1884, containing more than nine hundred plaster casts of statues, reliefs, and architectural models from Greek and Rome. The architects created a transition porch between the *Rome 400BC-AD300* and the *Cast Gallery*, which allowed the Cast Gallery to connect to and be independent of the Rome

gallery (Figure 7.25). The steps, glazed door and brick walls all highlighted the gallery visually, and the transitional porch itself became a threshold with light introduced.



Figure 7.25 The transitional porch of the Cast Gallery (source: author)

And then, there is a small gallery - *Italy Before Rome*, which visually directs the central atrium. The gallery focuses on the mixture of cultures of the Italian peninsula before Romans dominated it. Except for its exhibits, this transparent hall allows visitors to view the scene on the lower ground floor, which tells Ashmolean history (Figure 7.26).



Figure 7.26 The view from the gallery of *Italy Before Rome* to the central atrium (source: author)

The crucial part is the discourse of spatial narrative that reflect the cross-cultural connections. For example, double-sided glazed showcases are embedded in the wall between two galleries, allowing visitors to view two or more galleries and become a window between galleries. A notable example is placed between the gallery of *Italy before Rome* and *Aegean World*. The side of *Italy before Rome* shows the Etruscan artefacts. The other side of the *Aegean World* contains Mycenaean weapons and other artefacts, including the ceramics and vessels from Cyprus and Greece (Figure 7.27). Exhibits of the same type are displayed back-to-back in the same wall, showing their use in different cultures. The meaning of the wall is changed here. It not only separates two galleries – the original *signified* (function) of a wall, but also represents the link

of different cultures – the added *signified* (connotations) based on the narration of the double-side glazed showcases.



Figure 7.27 The glass showcase linking different cultures (source: author)

Similarly, the galleries of the *Greek World* and *Ancient Cyprus* are on the north-south axis of the secondary atrium. These two double-height galleries visually connect to the gallery on the first floor (Figure 7.28).

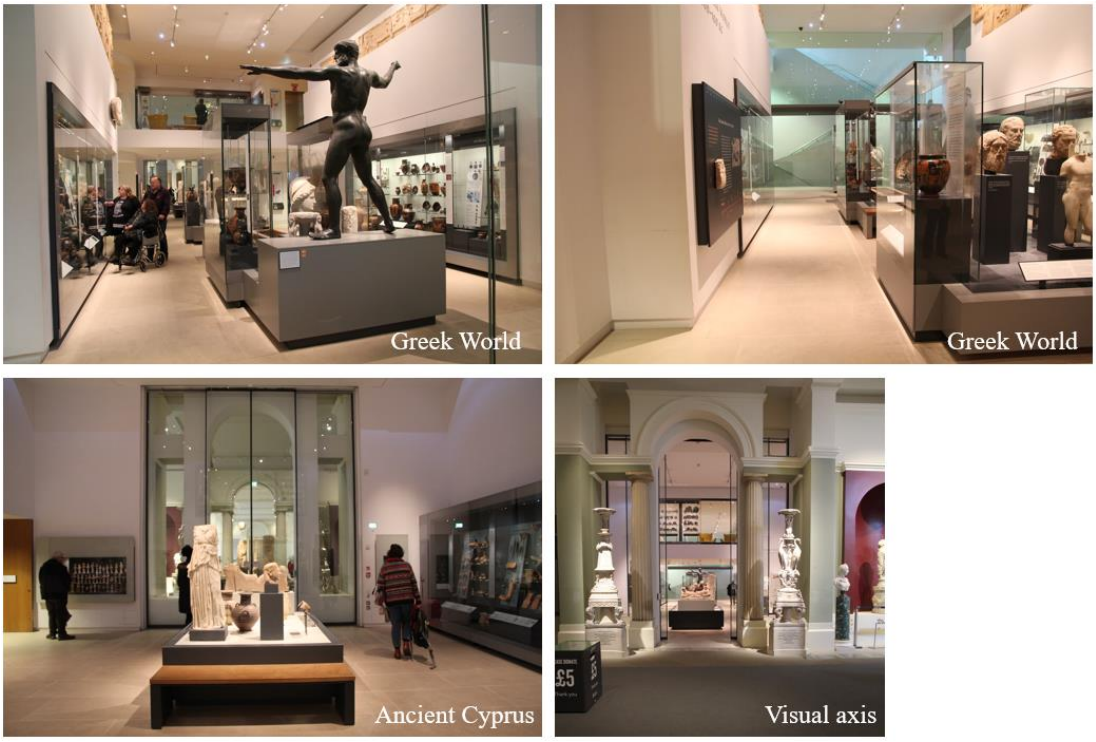


Figure 7.28 The galleries of the *Greek World* and *Ancient Cyprus* on the axis (source: author)

The narrative on the ground floor of the newly extended building encompasses various cultures from ancient history, forming different fragments from the East to the West. The narrative structure of the first floor is similar. The difference is that the first floor is divided vertically in order to correspond to the height of the Cockerell building (Figure 7.29).

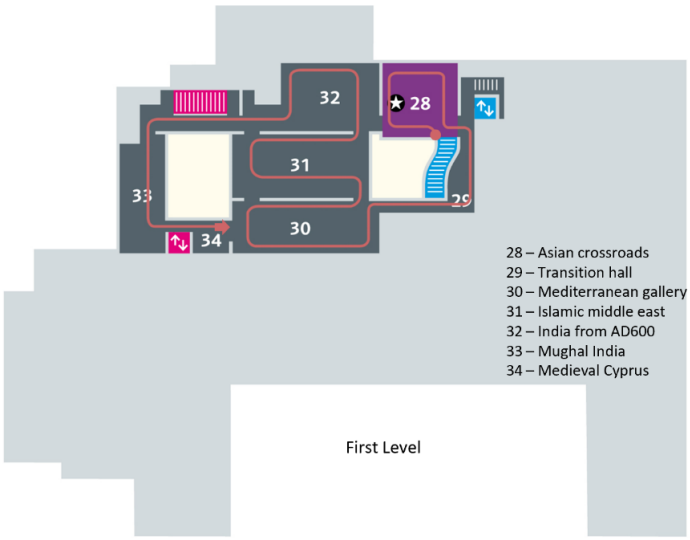


Figure 7.29 The author's visit route on the first floor (source from the website of the Ashmolean Museum and edited by author)

The theme of *Asian Crossroads* on the first floor presents the cross-cultural history of the Silk Roads. It introduces the spread of ideas, knowledge and design, cultures and religions along the historic Silk Roads between Asia and the Mediterranean. The galleries contain typical exhibits such as sculptures, textiles and paintings from Chinese, Indian, Islamic and Mediterranean cultures. The Mediterranean Gallery (30) exhibition explores the history and cultural identities of the major cities of the Mediterranean region, such as Rome, Constantine, Jerusalem and Cairo. It tells the story of the connections between people after the division of Rome through displays of Roman glassware, Venetian pottery, Byzantine jewellery and coins. It also introduces the lifestyle and activity of pilgrimage in these regions through believers' daily necessities to show the influence and connection of religion in different cultures. The exhibits were arranged to correspond to the map in the middle of the exhibition hall (3 of Figure 7.30).

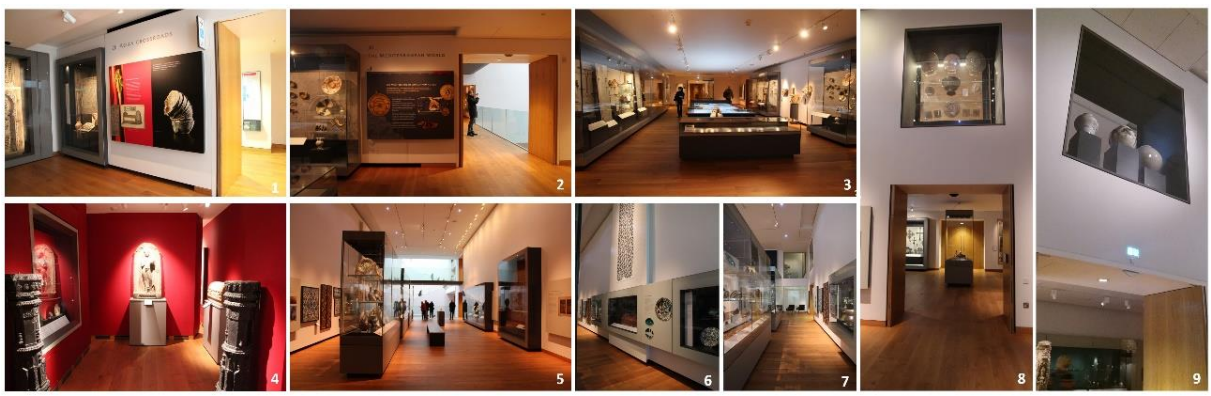


Figure 7.30 The *Asian Crossroads* Gallery (28); the *Mediterranean World* (30); *India from AD600* (32); and the *Islamic Middle East* (31) show the cross-cultures along the Silk Roads (source: author).

The *Islamic Middle East* (31) recounts their political, religious and cultural influences along the Silk Roads, and the double-height gallery also provides a full floor-to-ceiling wall for the display of grilles in Islamic architecture (6 of Figure 7.30). Ceramics, wood, textiles and other artefacts are categorised and displayed in various display cases, particularly the various ceramic objects in the central cabinet, which represent the cross-cultural influence of decorative techniques between Middle Eastern and Chinese potters (6&7 of Figure 7.30). In addition, visitors can also see two face-to-face cabinets embedded in the walls of the second-floor gallery: the European ceramics cabinet and the opposing Chinese ceramics form a dialogue between East and West (8&9 in Figure 7.30). Similar to double-side glazed showcases between *Italy before Rome* and the *Aegean World*, the *signified* of these two walls has been added.

India from AD600(32) mainly explores the spread of Buddhism and Hinduism from India to China and Japan, along with the Silk Roads. This gallery was divided into several small rooms similar to the shrines in a temple (4 in Figure 7.30). The objects are displayed within different regional contexts to show cultural diversity and inspire visitor's comparison with other religions.

Although the galleries on the first floor are geographically sequenced to showcase the various cultures, religions and social identities of different countries, they are all linked by the same theme - the shared history of trade routes, the Silk Roads. These galleries have a macro context - driven by cross-cultural trade. These galleries tell the story of trade as the main driver of cultural exchange since historical times, from Asia to Europe, from history to modernity. However, it always emphasises the links between cultures rather than their exclusion. The Crossroads has connected entire regions and the Silk Roads, as has the current B&R Initiative. The concept of intercultural narrative is essential to convey the relationship between cultures and express it in the museum.

Except for the geographic segmentation on the ground and first level, another narrative approach shows the links between different cultures via displaying the same type of items. This approach has been seen in the *Textile Gallery* on the lower ground floor, which compares the social use, regional divergences and cultural identities between different cultures in the historical time since 7000BC (Figure 7.31). The silk dress from

China and Indian, several robes of British explorers, are arranged together to show the textile development in different regions. Visitors can compare the differences and similarities of these objects simultaneously.



Figure 7.31 The *Textile Gallery* organized (Lazaridou, 2013) the collections from different cultures (source: author)

Based on the explicit narrative analysis above, the narrative framework can be summarised. Firstly, the narrative hierarchy needs to be set up. Through the orientation gallery on each floor, visitors can establish a general concept highlighting the various cross-influences in the past. And then, all of the object's narratives are organised in detail to create interlinks across cultures, which are integrated with the architectural discourse. The architectural language, such as the footbridges between different galleries, the atrium's staircase, and the glazed showcase embedded in the wall, are superimposed connotation meaning according to the narrative context. As the book *Ashmolean Museum: The First British museum* described:

> The whole building is conceived around strong visual axes, so that, for example, the visitor can look through a window case of ceramics in the China gallery down to glazed tiles from the Islamic world and across to the Ceramics Gallery, where lustre-ware and majolica show a different use of the same tin-glaze technology.[103]

Secondly, the new context encourages visitors to explore and interpret the building and object's narratives simultaneously. All of these details create brief pauses or surprises during a visit that can produce more memory points. As the museum focuses on the object's narration without multimedia or other interactive technologies, the different display approaches are classified to examine their relationship with architectural language expression (Table 7.1).

[103] Christopher Brown. Ashmolean: British's First Museum. Ashmolean Museum. 2010, pp.24-25.

Table 7.1 The approaches of object's display in the Ashmolean (source: author)

The approaches of objects' display					
Showcase		Exhibits on the wall		Scale models	Platform
Single exhibit	Group exhibits	Single exhibit	Double-side glazed showcase	-	-
					

Each gallery has a different theme, and the showcase is the primary way of exhibition. Unlike the showcases at the Mary Rose Museum, which has a clear storyline, the Ashmolean focuses on the different exhibits to enrich the narratives. Each gallery controls the density of displays and shapes different sub-themes while presenting them in various approaches. Therefore, the viewing windows, the showcase in the wall, and the double-height gallery bridges are adapted to fit the narrative. The walls with the showcases are no longer just partitions of different galleries, and it also carries the cultural meaning that crosses different galleries. Having analysis, the spatial layouts and object's narratives on the horizontal plane, the following part will explore narratives from the vertical level.

The central feature of atriums and footbridges – vertical encounters

Based on the idea of "crossing cultures crossing time", it assumes that every object has a story to tell. These stories are best revealed through comparisons and connections rather than individuals (Artdaily, 2008). The new extension building constructs a central feature – a full-height atrium with footbridges and balconies crossing at different levels to convey the idea of cross-cultural links metaphorically. If each floor of the extension building tells stories of cross cultures and encourages visitors to explore the connections between them, the ascending staircase in the central atrium allows visitors to walk through time (Figure 7.32). It becomes the core of the non-linear and three-dimensional circulation. Also, this zigzag staircase leads to the rooftop restaurant, where visitors can enjoy the view and food. Thus, the sectional plan has become one of the most distinctive features of the museum. (Figure 7.32).

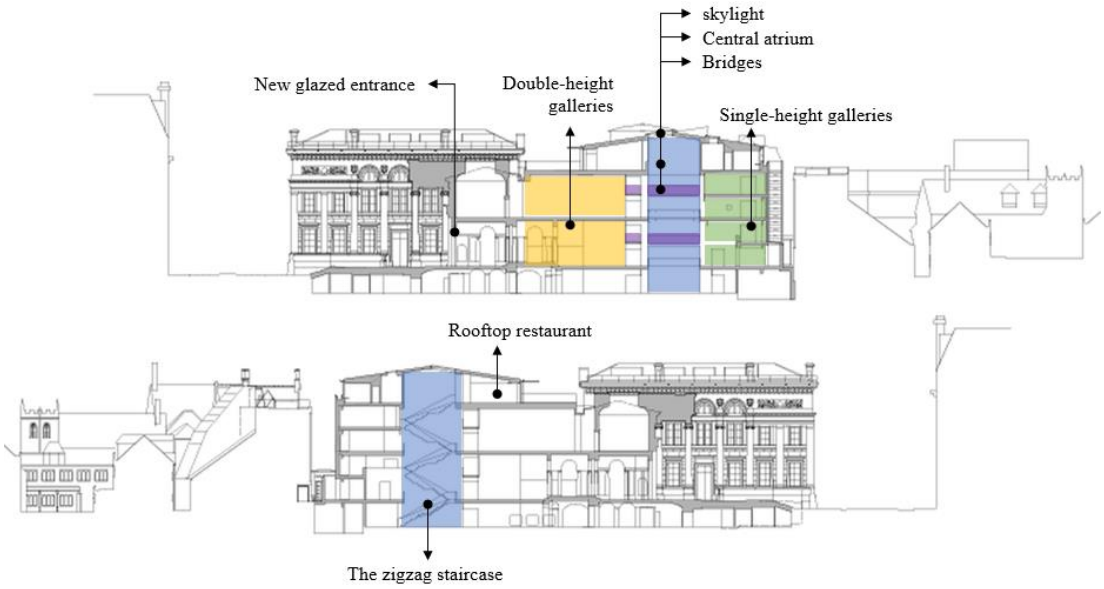


Figure 7.32 The central atrium of the Ashmolean Museum (source from https://micaarchitects.com/projects/ashmolean-museum and edited by the author)

The new narrative context comprises extensive collections threaded through the central atrium, from the historical objects on the lower ground floor to the most recent on the top, which forms crossing time. The generation of this new context is based on the spatial discourse to some extent, especially the zigzag staircases in the central atrium that connects the orientation gallery on each floor (Figure 7.33).



Figure 7.33 The views of the central atrium and galleries around it

(1-3 source: author; 4 sources from https://www.e-architect.co.uk/oxford/ashmolean-museum accessed date: 16th Sep 2020)

In accordance with the narrative framework, the architects encourage the visitor‘s explorations and movements through the museum. The central atrium helps to reveal the story of the museum as a whole. It is a focal point at both vertical and horizontal levels, where crossroads encourage visitors to self-direct their route through the

museum. Visitors can move and explore between galleries while seeing further and gaining more route options. Thus, if the visitor enters the central atrium, they will be captivated by the richness of the scene created by the staircase and the catwalk. Roaming through the galleries via the "bridge" area, visitors can experience the tension between the galleries by moving between them, or see other galleries on different floors.

Although the structure of the object's narratives follows a chronological and geographical order, these atriums and footbridges have visually broken the sequences. The central atrium is not only a circulation and light function, but implies the connotation that the cultures worldwide are inseparable and develop through constant communication and exchange. Kali Tzortzi commented that the Ashmolean Museum is "more on visual than movement relations" in his paper *Space: Interconnecting Museology and Architecture* (Tzortzi, 2011, p. 31). On the contrary, the author claims that although the visual links fill the entire building superficially, the visitor's conceptual cognition is still based on their movements and experience in each gallery.

The atrium's internal views indeed stimulate the visitor's curious exploration, even without a guide map. The galleries around the atriums can be overviewed and observed via a three-dimensional perspective. Also, the whole extension building adopts an "architectural equivalent of Jenga"[104] with the bridge's links on different levels. The "bridges" here contains a metaphorical expression that serves to the *signified* meaning of spatial discourse – the connections between different cultures and to encourage visitors to explore various galleries. If the double-height gallery is divided into two levels, making the footbridge non-existent, the visual axis through the central atrium will disappear. The current interconnected landscape would be replaced by an enclosed gallery. The impact of the visual axis on visitor activity would be diminished, and, in turn, the visitor's perception of the concept of "crossing" would be weakened (Figure 7.34).

[104]Jay Merrick. The Ashmolean Museum of Art and Archaeology by Rick Mather Architects. Available at: https://www.architectsjournal.co.uk/home/the-ashmolean-museum-of-art-and-archaeology-by-rick-mather-architects/8606420.article. Accessed date: 17th Apr, 2020.

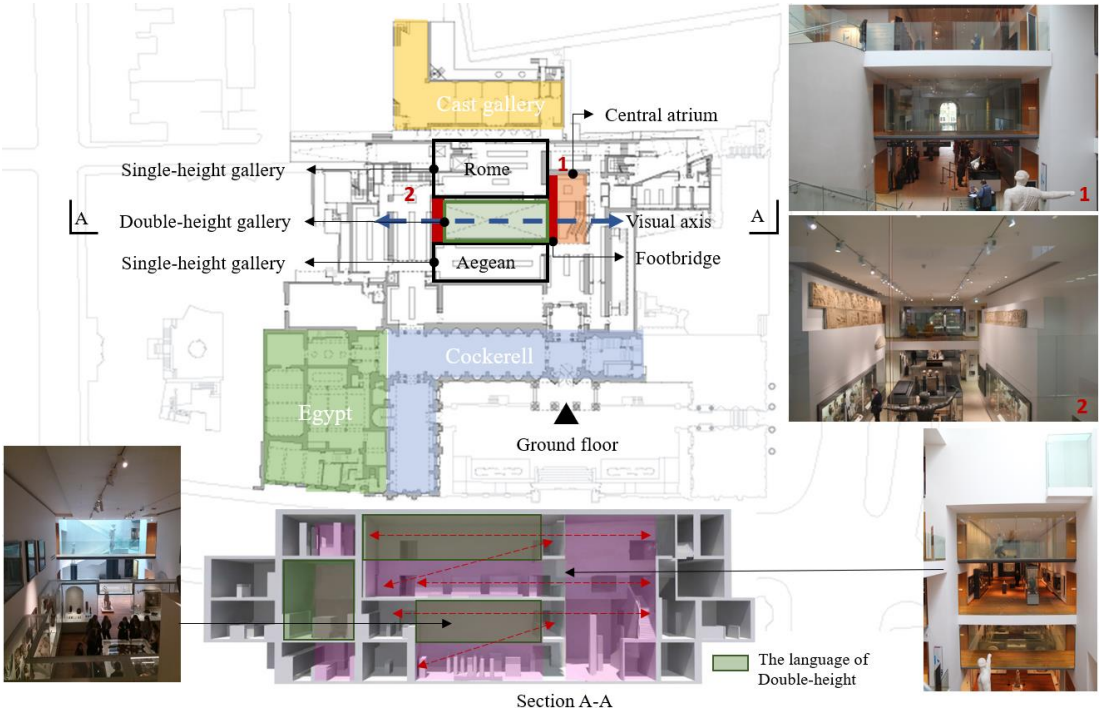


Figure 7.34 The role of the double-height gallery (edited by the author)

(ground floor source from MICA architects, section source from Psarra & Lazaridou, 2015, p.6)

Therefore, the organisation of the single and double-height galleries, staircase, and bridges around the atriums is not only the way of spatial configuration and utilisation but also indicate the across-cultural connections according to the narration. The open space of the galleries around the atriums contrasts with the enclosure of old parts.

Except for their logic that narrates from eastern cultures to the west, the ground floor galleries also have a close relationship with the galleries of *Asian Crossroads* on the first floor. The galleries of each layer are related to its upper or lower floors. This study focused on the ground and first floor, including Asian, South Asian and Mediterranean cultures. All of them are organised in a corresponding context, both horizontally and vertically. This spatial layout provides audiences with more routes to visit any part they are interested in (Figure 7.35).

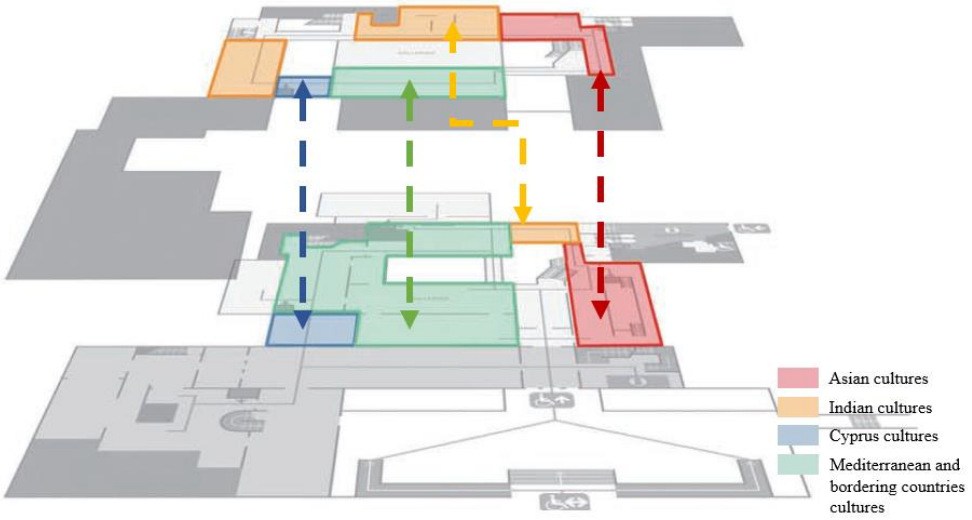


Figure 7.35 The correspondence of galleries in different cultures on the ground and first floor (edited by author)

In order to sort out the narrative and its expression, the author recorded each gallery in detail according to the guide map, but the visitors will not follow this sequence. The layered narrative structure allows for free choice of routes and encourages visitors to explore the meaning behind the objects. The visual axes and the detailed spatial narrative all enable visitor's movements. As Witcomb said:

> a new form of expression which invites the audience into a space in the text created by distancing signifier from signified… the reader/viewer is required to locate himself [*sic*] in order to search for meaning (Witcomb, 2003, pp. 144-145).

The interlinked narrative between horizontal and vertical levels, the light penetrating the skylight, and the three-dimensional atriums construct a dramatic cognitive and emotional experience for visitors from different cultural backgrounds. Except for the spatial layouts, the materials and lights strategy also contribute to the construction of context.

Light and material

Except for the discourse of spatial narrative, material and light are the primary physical condition of an object's display and the intuitive representation of spatial language. The material and light impact the narrative atmosphere of exhibitions and provide opportunities for the visitor's perception, understanding and memory. This section analyses the connections and differences between the Cockerell building and the new extension building to examine the narrative discourse of these two contexts.

The natural light of the Cockerell and the new extension refers to the different architectural languages. In contrast to ornaments, natural light is not a significant element of Cockerell's architecture. However, he still used a series of evocative skylights, such as the dome light in the grand staircase, the grid skylight in the gallery and the high side windows in the sculpture hall on the ground floor (Figure 7.36).



Figure 7.36 The light environment of Cockerell"s Building (source: author)

The new extension introduces the light through the two atriums on the axis and the north facade windows. The interlinked galleries have introduced more light into each gallery, especially the large skylight at the top of the central atrium. It makes the atrium and open galleries around it filled with light and showed a clean and modern atmosphere (Figure 7.37). Moreover, the concept of "crossing" is embodied following the light introduced.



Figure 7.37 The light effects of the atriums (source: author)

Except for the glazed walls and footbridges inside the museum, the narrow windows on the north façade of the new extension building introduce different light effects into

the galleries. It not only creates a visual experience for the objects but also provides visual contact with the exterior surroundings (Figure 7.38).

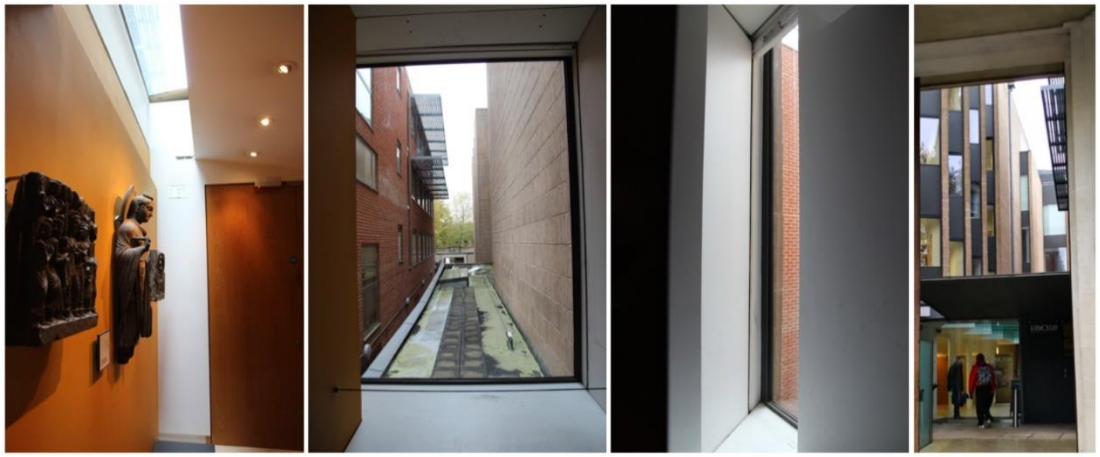


Figure 7.38 The windows on the north side (source: author)

The light is inseparable from the material used. The main feature of the material is the white background walls and the *glass* in different galleries to create a transparent and interlinked context. For example, the glass walls of the bridge A and B in Figure 7.39 create vistas across the double-height galleries to view objects from different cultures. Bridge A of the central atrium allows the audience to view the Doric columns of the entrance arch from a higher level. Bridge B at the secondary atrium provides a close view of the frieze on either side of the wall and a holistic view of the Greek sculptures on the ground floor. Also, visitors can directly view the opposite gallery of *Medieval Cyprus*. Both of these long vistas offer a visual experience beyond simply a horizontal level. Such interlaced scenes run through the galleries due to these spatial elements, enabling visitors to travel between different cultures visually and physically.



Figure 7.39 The vistas from glass walls of bridges on the first floor (source: author)

Moreover, the designer placed several seats to guide visitor's sight (Figure 7.40). For example, sitting in the *Islamic Middle East* gallery, visitors can see sculptures and artefacts from Greek culture on the ground floor and the enormous tapestry in the

Music and Tapestry gallery on the second floor. The perception of these vistas is subtle, even if they are unconscious at the moment. The researcher talked with a man sitting in the Medieval Cyprus gallery about his feeling about the scene before him, and he thought sitting here could calm his mind from looking down.

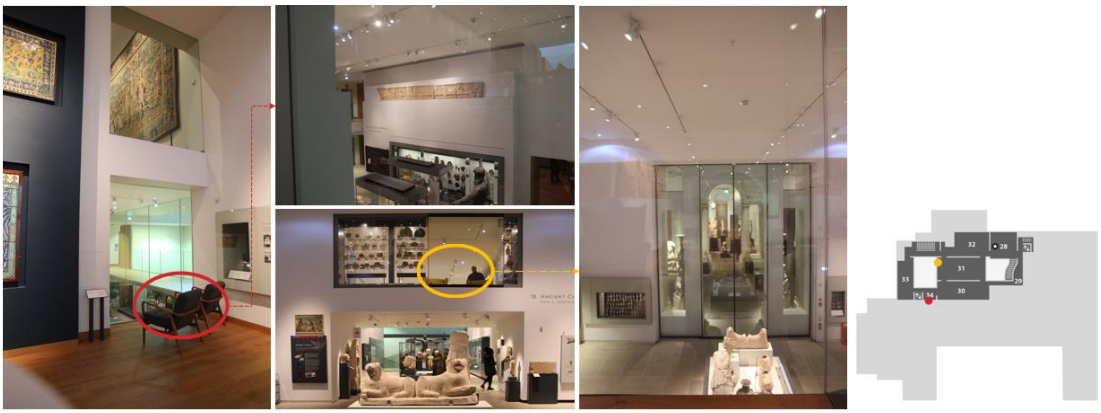


Figure 7.40 The seats in the gallery of Islamic and Cyprus for guiding views (source: author)

In addition to using glass to create vistas to connect the two parts visually, the responding relationship between the Cockerell building and the new extension part also demonstrates via other materials. Specifically, in order to respond to the stone floor of Cockerell's building, the ground floor of the new extension part has been covered with Portland stone, and the wood floors are available on the first floor and above (Figure 7.41).



Figure 7.41 The responding relationship through materials (source: author)

The details of the explicit narrative discussed above are the most distinctive discourse elements features of the extension building. Besides the response between the two parts, the differences in the narrative can be seen from the spatial atmosphere. Based on the theme of each component, Cockerell's building produces a classical Renaissance context through bright colour, plaster architrave and artistic display. On the contrary, Mather's new building has created an interlinked cultural context through a penetrating and modern background (Figure 7.42). It introduces a few colours, such as red or yellow, to the white background, which has activated the object's cultural meanings and atmosphere. Neither light nor material here can exist independently of their narrative context. The light, material, colour and narrative context enhance the connections and activate the object's emotional expression. All of the elements above formed the core of museum content, which is "crossing cultures, crossing time".



Figure 7.42 The narrative context between two parts (source: author)

7.2.2.3 Visitor's visibility and movements

According to the previous analysis, the three-dimensional interlinks through spatial narratives are the most characteristic of cross-cultural connections. Although the research does not mainly focus on analysing the relations and configuration of the museum's spatial layouts, the space syntax can help analyse visibility and its impacts on visitor's movements.

In order to explore the spatial connections and their influences on visitor's cognition on the horizontal level, the visibility graph analysis of the Ashmolean Museum is discussed in this section. There are amounts previous studies to explore the relationship between spatial layouts and visitor's movements in museums (Huang, 2007; Psarra, 2009; Tzortzi, 2015a). Firstly, the distribution of axes that cross the

museum on a three-dimensional level significantly influences visibility and visitor's movements. The spatial layouts of the new extension building are exact with axes. There are mainly four visual axes to provide clear structures for visitors, forming a connection between old and new buildings (Figure 7.43).

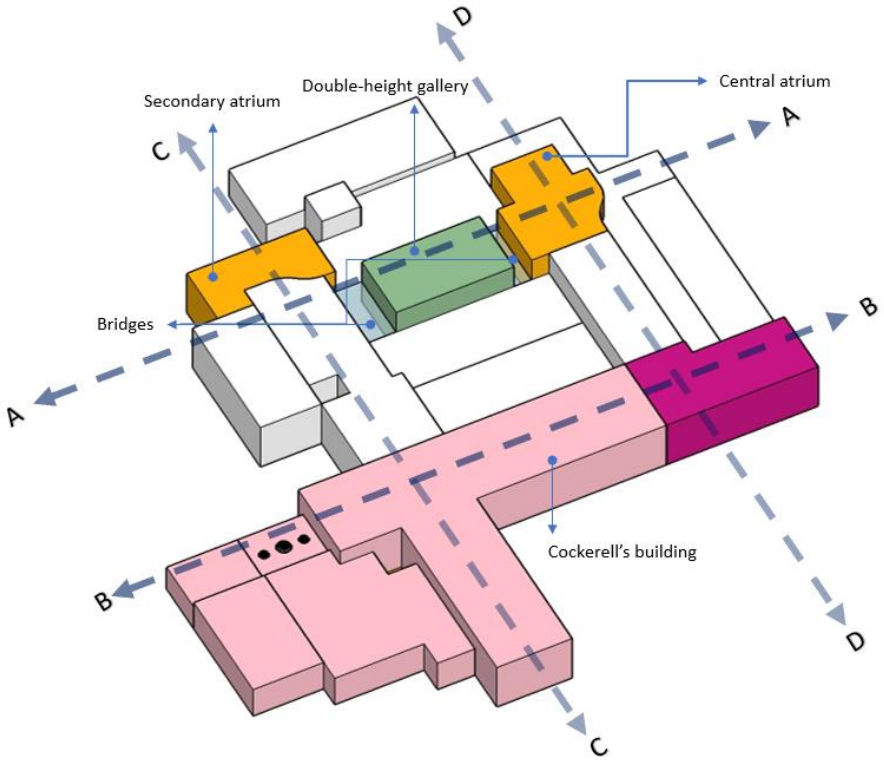


Figure 7.43 The 3D model of the relationship between atriums and axes in the Ashmolean Museum (source: author)

In terms of the spatial layouts of the Ashmolean Museum, Athina Lazaridou has already investigated and analysed the visibility and permeability model of each space layout to explore the influences of atriums on visitor's visual relations and navigation (Lazaridou, 2013; Psarra and Lazaridou, 2015). In this helpful study, Lazaridou proposed the essential function of the atriums on visitor's movements and behaviours (Figure 7.44).



Figure 7.44 The visibility graph analysis of the Ashmolean Museum (Psarra and Lazaridou, 2015, p. 18)

The figure above clearly indicates that the regions along the axis have higher visual integration. Combined with the traces of fifty visitors' movements collected by Lazaridou, the figure proved that their movements are directly affected by the visibility (Figure7.45). The higher the visual integration, the more visitors are attracted. So the axes that connect the entrance to the central atrium has attracted more audiences. The relationship between visual analysis and visitor's movements has been fully illustrated in her research.

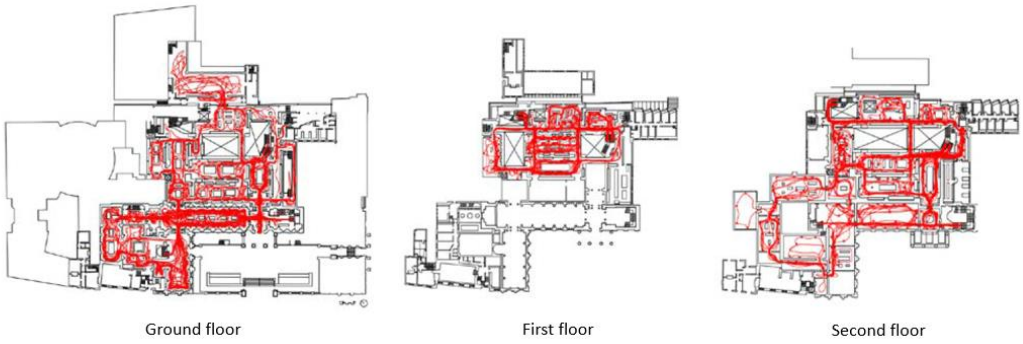


Figure 7.45 Observe paths of fifty visitors in the Ashmolean (Lazaridou, 2013)

Compared to Figure 7.44 with Figure 7.45, it can conclude that the relationship between the visibility and the axis system is indivisible. The galleries are highly integrated through the axes, as well as the visual connections. The central atrium, especially, is the highest integrated part of the whole museum as the intersection of axes A-A and B-B (Figure 7.43). Hence, the Ashmolean Museum creates an integrated visual core that runs through the museum's axes, contributing to visitor's navigation by offering free route choices. In the process of visitors inadvertently choose the route, they will see the scene that they may not intend to visit.

Based on the discussion above, the new extension building continues the longitudinal axis of Cockerell's building. Firstly, it will stimulate visitor's bodily movements via distinct axial routes. Secondly, it encourages visitors imagination and understanding of the cross-cultural links conceptually based on the three-dimensional connections. From physical perception to conceptual cognition, the architects have interpreted the connotation meaning of the museum narrative in architectural discourse.

Significantly, the atriums are not only improving route choices as a circulation space, but also provide an opportunity for exploring cultural encounters and dialogues among

objects-objects, objects-visitors, and visitors-visitors. The visibility through space syntax focuses on the spatial configuration on the *expression* level that influences visitor's visual connections and navigations. However, space syntax is an ideal tool for measuring the rationality of spatial structure applied to two-dimensional plans to produce quantitative measures of spatial layout relations. Hence, it emphasises the functional aspect of space layout rather than the communicative nature of spatial language. The relationship between the connotation of spatial language on the *content* level and the object's narratives has been overlooked. In other words, the meaning of spatial language and its impact on visitor's cognition is not particularly prominent compared with spatial configuration. The following section will examine the expression of implicit narrative on the *content* level.

7.2.3 The implicit narrative on the *content* level

Various studies have focused on the relationship between spatial layouts and visitor's movements in different museums. These studies explored the narrative sequence between objects and spatial configurations from a functional perspective rather than the communicative power of architectural (spatial) language. The author believes that narrative expression through architectural discourse is exactly the key point to improve visitor's cognition both of the building itself and the museum content.

In other words, the spatial discourse does not only influence the behaviours and movements of visitors but also constructs the narrative context that contributes to visitor's interpretation. The Ashmolean Museum's symbolic importance is delivered based on the changing of spatial language, atmosphere, and object's display on expression level, which is the discourse of the spatial narrative. Based on the analysis of explicit narrative in the last section, the metaphorical expression of implicit narrative – the cultural value and story of the narrative, can be drawn from the following points:

First of all, the Ashmolean museum's narrative structure can be illustrated both horizontally and vertically. The Asian cultures, Mediterranean cultures and European cultures are displayed alongside each level in a geographical sequence. Consequently, the narratives spatially coincide with its metaphorical concept – "crossing cultures, crossing time" (Figure 7.46).

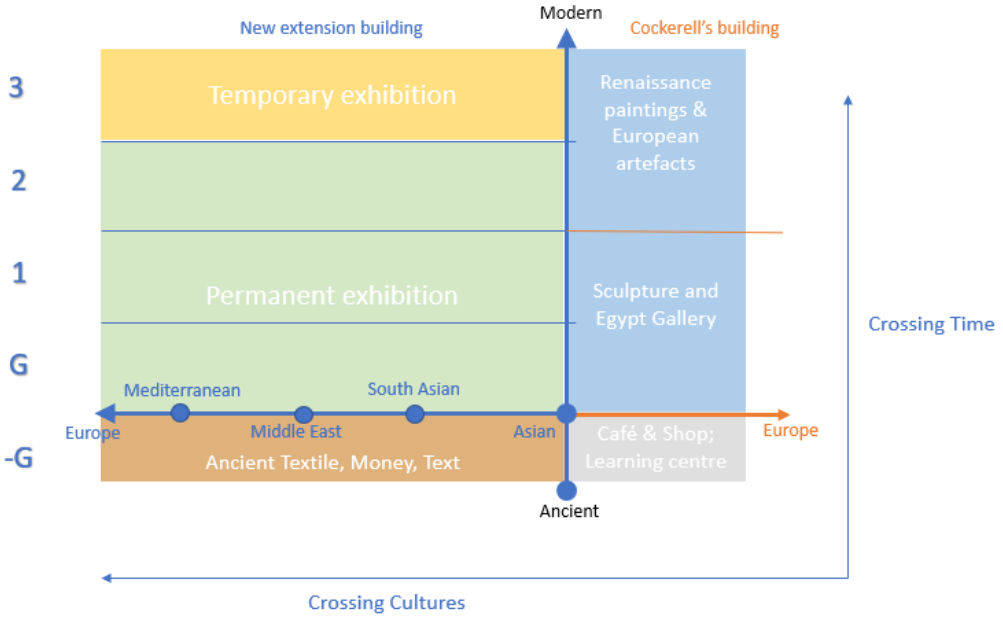


Figure 7.46 The narrative framework of the Ashmolean Museum (source: author)

Secondly, according to the theoretical framework of narrative-oriented metaphor based on Roland Barthes's semiotic system (see in section 5.2.3), the first-order and the section-order represent the complementary relationship between spatial discourse and narratives. Once the exhibits enter the space designed for them, the narrative context will impact the architectural discourse on the *expression* and *content* plane. This relation determines the cognition of visitors. Based on the metaphor hierarchy – *image schemas, domains, frames and mental spaces*. The image schema and domains of "crossing cultures, crossing time" are expressed through architectural discourse. In this narrative context, the architectural language (narrative elements) are designed to serve the cultural connotations. From the whole to the part of discourse, each component can be interpreted that relates to the narratives (Table 7.2).

Table 7.2 The narrative-oriented metaphor of architectural discourse (source: the author)

Elements	Expression of architectural language (signifier)	Signified in architectural language (first-order)	Superimposed connotations with narrative (second-order)	The impacts on visitors
Viewing windows	 	Visual communication; Light, sound and air.	Connect to objects from different cultures through vista; Stimulate visitors' movements.	Discussing their choice of visiting route; Have a rest with a good view.
Bridges	 	Horizontal circulation;	Cross-cultural connections; Visual links of narrative on different level.	People stop to take pictures; Walk through to the next gallery; Look at the different layers.
Central atrium	 	Light and ventilation; Vertical circulation.	A three-dimensional cultural environment; Implies crossing cultures vertically.	Walking up and down; Stopping and observing.
Display window embodied the wall	 	Visual communication	Stories of cultural connections; A carrier of different cultures.	Explore stories on the other side.

Thirdly, the existence of central and secondary atrium improves visitor's visual links on the *expression* plane. It emphasises the orientation and route choices through visible links from a three-dimensional perspective. The atriums are no longer just a circulation space, and their meaning is added based on the galleries around them. Furthermore, the interlinks through balconies and bridges and other spatial elements between galleries all respond to the narrative framework both from horizontal and vertical levels. They reflect the essence of the museum, which is a *hub* to encourage *cross-cultural dialogue*. The museum developed into a medium of communication and exchange, which defines the new narrative context different from the old part. The *cross-cultural dialogue* here contains three levels of meaning:

Firstly, it is a dialogue between the building itself and its surroundings from the urban environment.

Secondly, the relationship between Mather's new extension building and Cockerell's old building also formed a dialogue between modern and classic.

Thirdly, it defines a cross-cultural context through spatial discourse, allowing visitors to perceive and explore it.

7.3 The visitor's accessibilities to the narrative-oriented expression

7.3.1 The purpose of the investigation

The sections above have analysed the explicit (*expression*) and implicit (*content*) narrative of the new extension building. Mather's design forms a narrative context that closely links to the object's story. This section explores visitor's accessibilities to the metaphorical expression of the spatial narrative from perception to cognition. It not only relates to the visitor's navigation in the museums but also becomes the way to observe their interactions with exhibits and other visitors in the museums. In other words, this survey aims to examine whether and how visitors perceive the intercultural links expressed through narrative-oriented metaphors. Also, it provides suggestions for designers to learn visitor's experiences from a different angle to estimate which part is more effective and then draw the recommendations for their discourse.

From June 9, 2018, to October 31, 2018, 126 visitors to the Ashmolean Museum were observed and investigated after obtaining the museum's permission, of which 105 were valid (the rest were incomplete or illogical, and visitors under 18 were excluded). The author then examined and analysed the influences of the architectural discourse on visitor's conceptual cognition (Appendix). Although the questions are the same, the answers and interpretations are various for each person. The specific goals of the investigation are different due to various museum contents.

Firstly, the critical point is the design of questions. According to the analysis of the narrative, the questionnaire focus on visitor's awareness of cross-cultural links – "crossing cultures, crossing time." It needs to achieve visitor's accessibility of the explicit narrative, which relates to their perceptions and movements. Then, the questions need to investigate their cognition and interpretation of the implicit narrative.

Secondly, it is vital to select a place where the questionnaire is distributed. In general, the visitors are attracted by visual axes and critical objects that were conceived across galleries and spaces. Once the visitors enter the museum, they are faced with three route choices: the vast plaster of Apollo dead-ahead of the central atrium, the Randolph Sculpture Gallery on the left side, and the monumental classical staircase to the art galleries on the right side (Figure 7.47).



Figure 7.47 the dead-ahead to plaster of Apollo in the central atrium (left), the great staircase (middle), the Randolph Sculpture Gallery (right). (source: author)

The entrance hall staff usually leads the visitors to the information desk next to the central atrium. The first survey location is at the entrance hall, which is the only entrance and exit of the museum. The other is the central atrium at the intersection of the axes, which is the three-dimensional space for cross-cultural links (Figure 7.43).

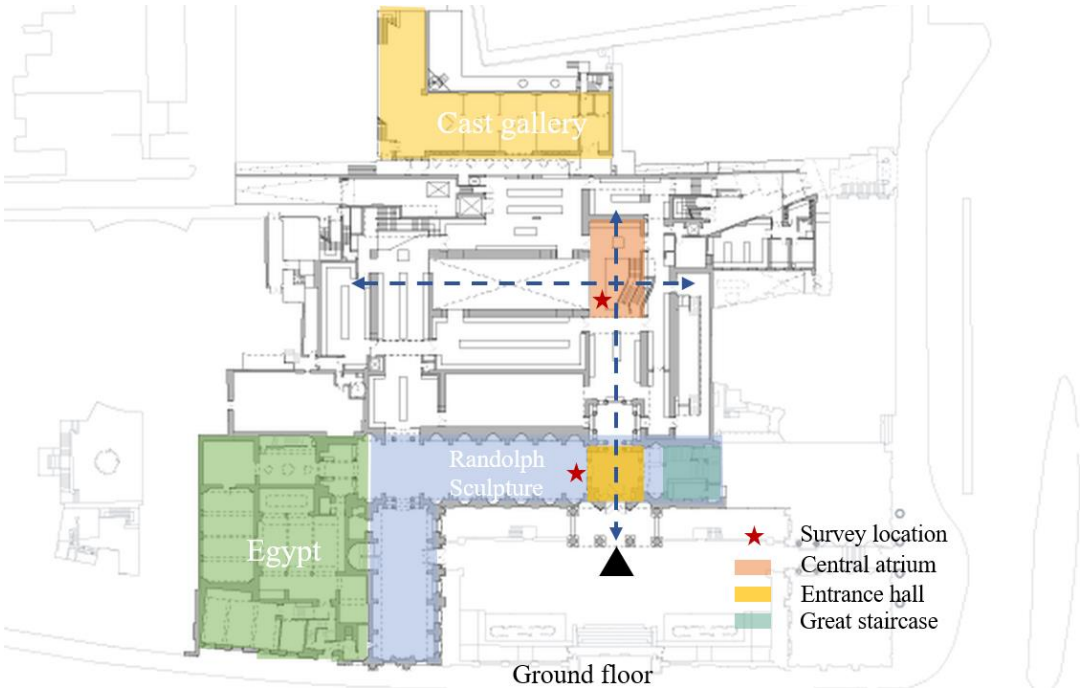


Figure 7.48 The authors" position for survey and observation (edited by the author)

7.3.2 The visitor's perceptions and cognitions of the narrative

7.3.2.1 The demographic information of visitors

The first part of the questionnaire collected the demographic information of the visitors. Visitors who spend 1-3 hours (73% of the total respondents) or more (7% of the total respondents) at the museum were more likely to complete the survey. Most of the group tourists were excluded due to time constraints.

The group 18-29 (39% of the total respondents) was the most visited group and willing to finish the questionnaire compared with others: group 30-49 (30% of the total respondents), group 50-64 (16% of the total respondents), and group over 65 (10% of the total respondents) (Figure 7.49). Unlike the Mary Rose Museum, the Ashmolean Museum can attract young and middle-aged visitors. On the one side, the author assumed that it relates to the famous University of Oxford, which attracts more young people come to visit. On the other side, the way it exhibits the objects contribute to appeal to various visitors, and it will be examined in the third part of this survey by evaluating visitor's accessibility of the narrative.

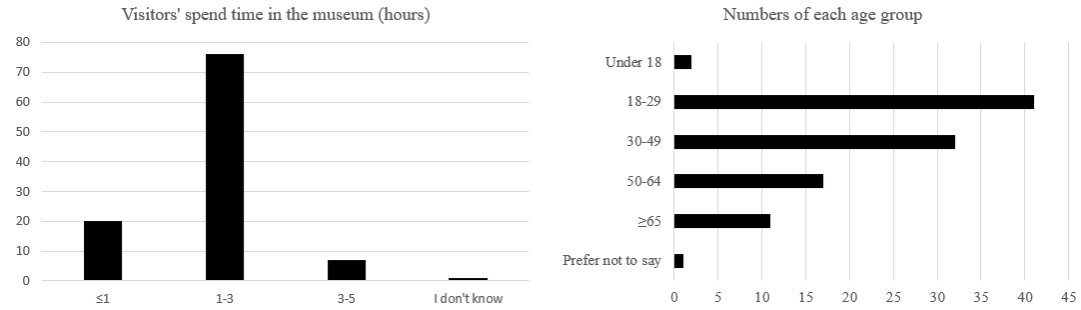


Figure 7.49 The time management and age groups of investigated visitors (source: author)

As the visitor's understanding of museum content closely relates to their pre-knowledge and cultural backgrounds, the researcher gathered information on their education level and cultural beliefs as evaluation criteria (Figure 7.50). Almost 50% of the total respondents hold a postgraduate degree or higher education level, and the rest also achieved different education levels.

In terms of their cultural beliefs, 48% of the entire respondents choose "none" for identifying religion, and 31% of the total visitors are Christianity. The rest included a

small amount of Islamic (2%), Jewish and Buddhist audiences (1% respectively), and others mainly consist of Atheists and Agnostics (7%).

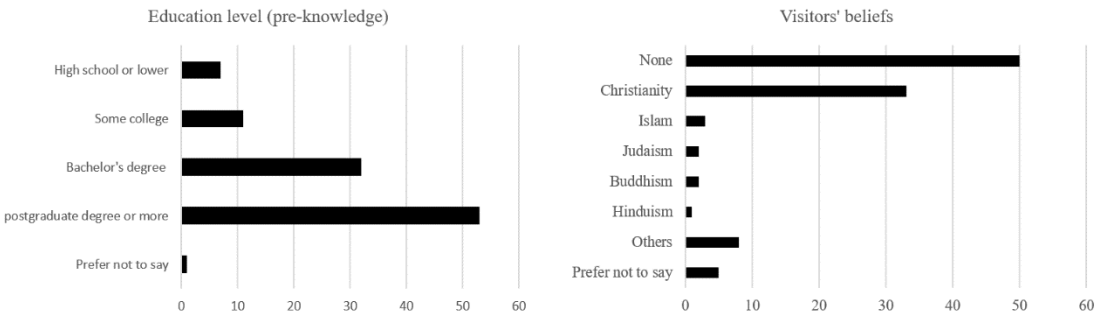


Figure 7.50 The education level and cultural beliefs of visitors (source: author)

We cannot say a definite connection between education level and their religions as the relationship is complicated. However, it can be seen in Figure 7.51 that there are almost 44% of the total investigated visitors are interested in the content of the museum, which may relate to their educational levels. As many countries along the Belt and Road are low-educated areas, not enough attention has been paid to establishing museums. For example, Only 5.4% of the population aged 25 and over had a high educational attainment level in Vietnam. The data was 15% in China and 22.6% in the UK. Moreover, 21% of the investigated visitors come to the museum with their families, and 24% of the investigated visitors prefer to explore the special exhibition or information rather than the entire museum content (Figure 7.51).

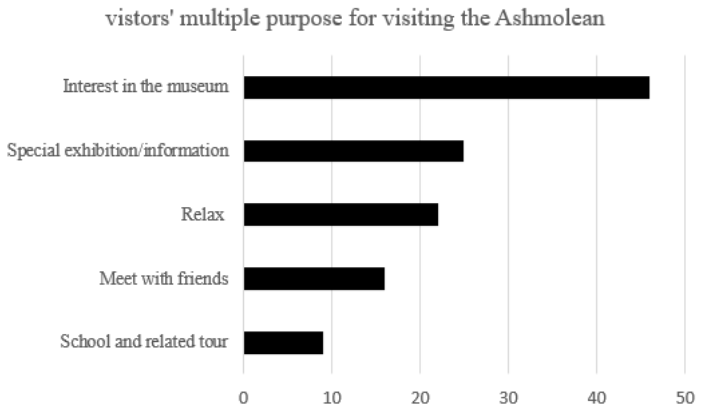


Figure 7.51 The multiple purposes for visiting the museum (source: author)

Although the investigated visitors are selected randomly, the limitation still existed because approximately 30% of the total audiences who volunteered to finish the questionnaire are Oxfordshire residents or studying at the University of Oxford. Their educational and cultural backgrounds may differ from the museum audiences along

the Silk Roads. As the author mentioned, the cultural distance is mainly caused by lower intercultural recognition, which closely relates to visitors' pre-knowledge and cultural backgrounds. After collecting the basic information, the second part of the questionnaire examines their perception and movements to the explicit narrative.

7.3.2.2 The visitor's perceptions of the explicit narrative

Similar to the question of the Mary Rose Museum, the author asked participants to assess the physical conditions that affected their visiting experience, which intend to identify the audience's awareness of the language of the exhibition and the museum architecture. Compared to the data collected from the Mary Rose Museum, the participants in the Ashmolean Museum believes that the interpretation accessibility of the narrative is the most important factor. The interior atmosphere and the narrative sequence, which are related to the spatial discourse, are equally important.

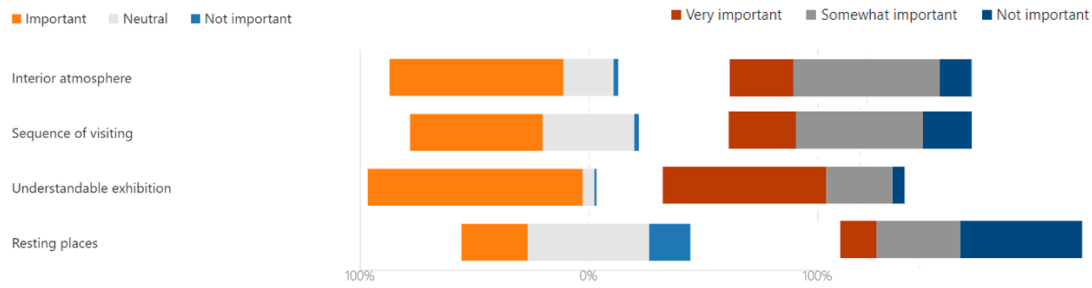


Figure 7.52 The assessment of factors that influence on visiting experience (source: author)

The Ashmolean Museum shows that the links and connections shaped through the spatial narrative are not only generated the dialogues between different cultures but also provide opportunities for observation and interaction for multiple audiences with other groups. According to Christiansen et al., the *cultural encounter* is "the interaction between groups or individuals across established cultural boundaries" (Christiansen et al., 2017, p. 599). Hence, the museum is not a simple place to display objects, and it becomes a medium that links various cultural groups. The author proposed three interrelated factors, which are cultural accessibility, interpretation accessibility and emotional resonance, to verify the audience's cognition of the museum content – "crossing cultures, crossing time". These three aspects are based on the visitor's understanding of the explicit and implicit narratives. The questionnaire starts from the explicit narrative, including visual connections, spatial layouts and object's display.

The author investigated visitor's feelings for Cockerell's Greek revival building and the extension building in modern language by asking, "what is your first impression of the Greek revival building with the new extension building?". As the author mentioned, the Ashmolean Museum's classical symbols, such as orders, friezes, and ornaments, can reflect the historical images. Cockerell's design with these elements not only responds to the surrounding buildings but also shows the designer's interpretation of the classical ornaments. The historical context impacts visitor's cognition will be different due to their diverse cultural backgrounds.

Initially, the researcher tried to get information by asking an open-ended question. However, the university's language counsellor suggested giving them some options to guide them in answering this somewhat professional question. Hence, the researcher provides several reasonable options to enlighten the investigator's thinking. As a result, almost 34% of the respondents did not perceive Ashmolean Museum's architectural factors (Figure 7.53). And 10% of the participants did not know how to describe their feelings or understanding of the museum building. These results were not very encouraging. Only half of the investigators chosen or gave their feelings to the discourse. 25% of the respondents perceived the new extension building "gets more natural light". And 22% of the investigated visitors realized the building's aesthetic value by choosing "the building itself like an artwork". In addition, while they have noticed the atriums and the modern language of the new extension building, 15% of visitors also realised the spatial layouts was more complicated.

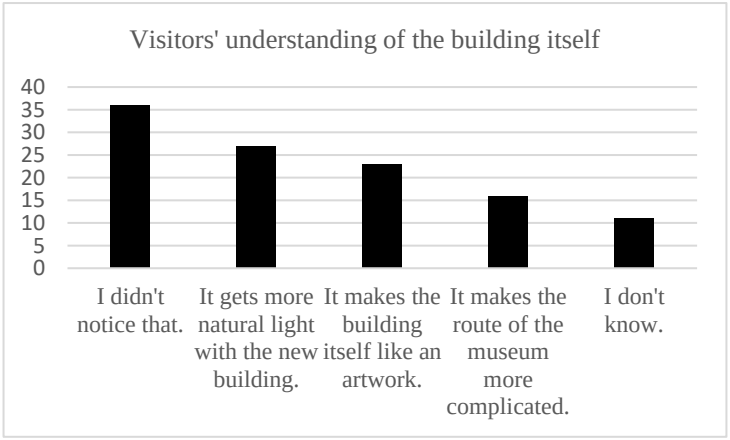


Figure 7.53 The visitor's understanding of the building (source: author)

In addition to the options provided, three of them offered their interpretations. A young man has noticed the connections between different parts of the museum, "I noticed the

Greek revival extension, and the natural light provided by the new building as I walked within. I don't know the two architectural styles go with each other, but from within, it did not clash too much. It gets more natural light with the new building". A middle-aged woman said, "Brilliant example of merging 'traditional' and 'contemporary' architectural design." Moreover, it is interesting to note that an old lady offered an understanding from a completely different angle – "It makes the building more transparent to look from inside". She claimed that the building's "transparent", which means she was aware of the visual connections within the building.

Except for their understanding of the building itself, visitor's perception of the physical discourse includes light, space, and material in the museum, are evaluated (Figure 7.54). The survey showed that 38% of the investigated visitors "agree strongly" that the physical environment was important, and nearly 47% agreed with it. The rest of the respondents (15%) believed that the physical environment was not necessary. Besides, two of the respondents who chose "disagree or disagree strongly" gave their reasons. One of them thought, "the arts are the key to the visit", and the other said, "I cannot feel any if no one told me". Most visitors agreed that the spatial discourse affects their visit to varying degrees.

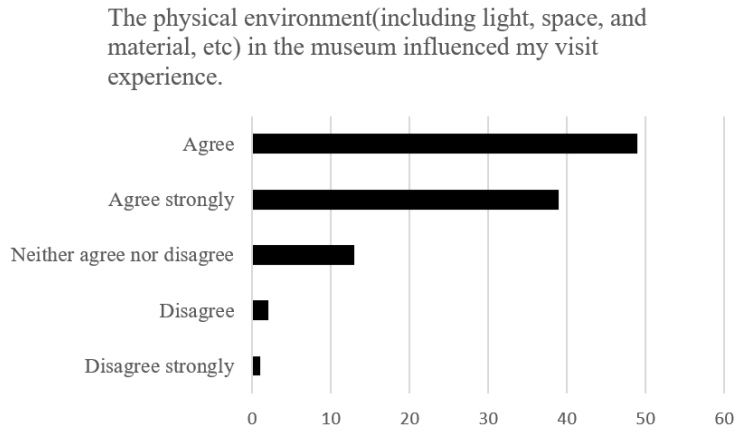


Figure 7.54 The influences of the physical environment on visiting experience (source: author)

In addition to the spatial discourse, the visitor's movements, while visiting, had a close relationship with spatial layouts. Most participants chose the route for themselves. The researcher has investigated their visiting preference in the museum. As Figure 7.55 shows, 44% of the total respondents have walked through each gallery in their sequence. The results have proved that the Ashmolean Museum offers a free-choice learning environment. Also, 35% of respondents chose to visit the parts that attracted

them. It also indicates that the non-linear narrative structure can encourage visitor's different interests. Very few people saw each gallery (11%), while others showed no interest in the exhibition (8%). The result shows the visual connections – created through spatial discourse such as the bridges, balconies and windows, have significant influences on visitor's movements.

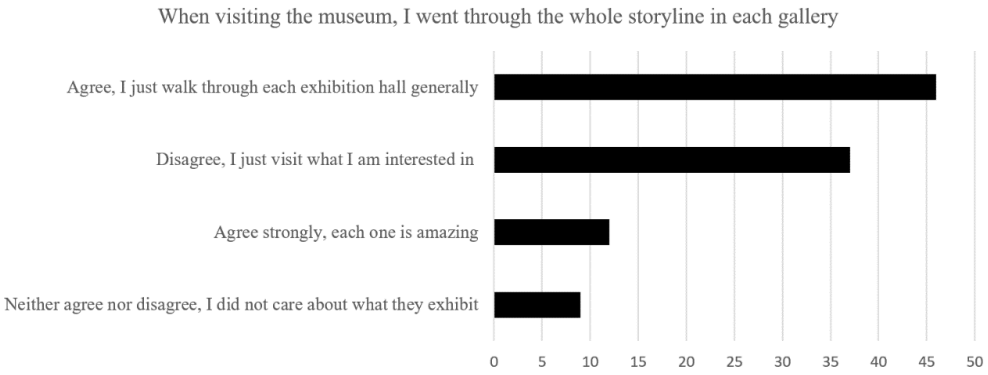


Figure 7.55 The visiting preference in the museum (source: author)

As mentioned, various cultural backgrounds also influence visitor's interpretation accessibility, so the researcher investigated whether it impacted their experience and whether they prefer to know other cultures. As a result, 89% of the respondents agreed that cultural beliefs did not affect their museum experiences and interpretations. While the rest of them (11%) felt that cultural beliefs had more or less influenced their understanding and cognition.

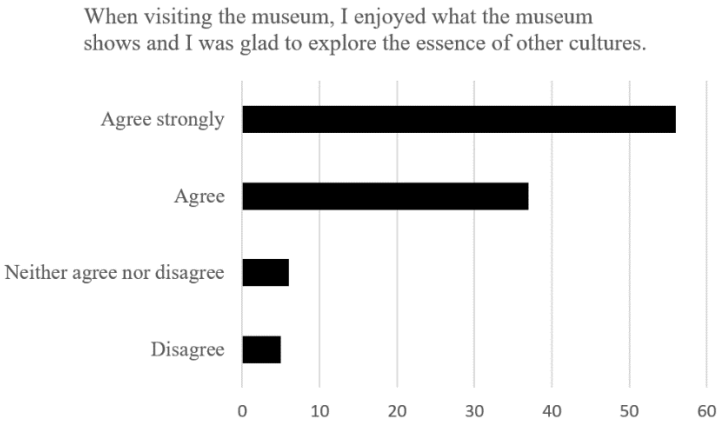


Figure 7.56 The investigation of the impacts of cultural beliefs on visiting experience (source: author)

Except for visitor's pre-knowledge and cultural beliefs, the language which belongs to part of the object's narratives is another primary element that influences visitor's cognition. The survey found that almost 67% of respondents were native English speakers. Hence, most visitors had no language barriers to interpret the exhibits, while

14% thought they might have barriers or difficulties because of language barriers. It shows that the museum's display text is not accessible to all visitors.

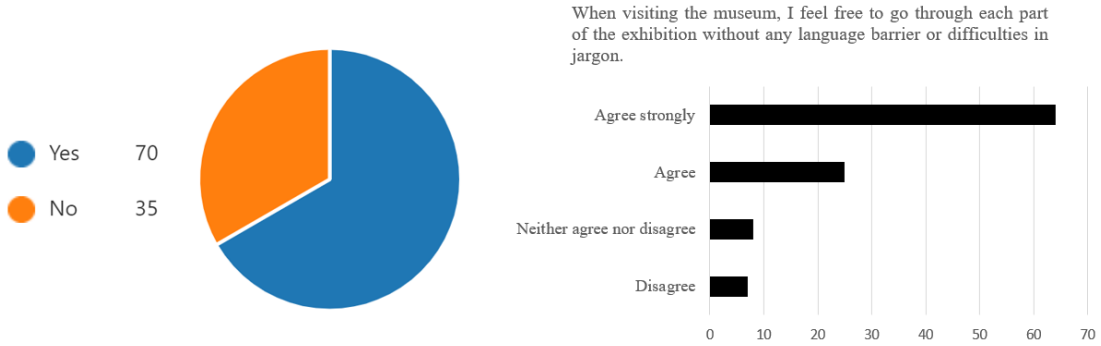


Figure 7.57 The portion of English speakers and non-English speakers and the influences of languages on the cognition of museum content (source: author)

In summary, this part mainly examined visitors perception of the overall building, specific discourse, the object's narratives (includes the text) and their movements. The results show that although nearly half of the respondents did not pay attention to the museum building changes, most of them were still influenced by specific spatial discourse, especially in their route selections. In addition to their accessibilities to spatial discourse, another important factor – cultural accessibility can be assessed through the questionnaire. Initially, the authors intended to find a relationship between visitors' cultural beliefs and their perception of the museum narrative. However, as the survey revealed, 89% of the participants surveyed did not believe that cultural beliefs influenced their museum experience and interpretation. Therefore, as long as everyone can interpret the museum, it is a narrative museum. The museum is accessible for visitors from different cultures.

7.3.2.3 The visitor's cognitions of the implicit narrative

To further verify the visitor's cognition of metaphorical expression of the cross-cultural links, the researcher asked more questions about their understanding of the detailed spatial discourse, especially their comprehension of the three-dimensional atriums. As mentioned in the last section, the visual links, which has close relations to illustrate the core of museum content, are the prominent feature in the new extension building. It has shown the connotation meaning of spatial language on the *content* (signified) level. The architects metaphorise the concept of "cross-cultural links" through spatial discourse superimposed by the object's display.

There are many other languages like those details that are hidden in the museum galleries. The author also continuously excavated these languages in the research process. The second part of the questionnaire verified that the visitor's awareness of the visual links and their cognitions of cross cultures to some extent. For example, the "bridges" around the atriums are the source domain, while the "intercultural links" is the target domain. Hence, the investigation further surveyed visitor's awareness of these physical connections and their signified meaning related to the narrative story - "crossing cultures, crossing time".

The first step is a simple question to ask visitors whether they pay attention to the "bridges" around the atriums. 55% of the respondents have noticed the footbridges across through atriums, and they thought the footbridges were helpful in guide their tour (Figure 7.58). It represented visitor's awareness of bridges to some extend.

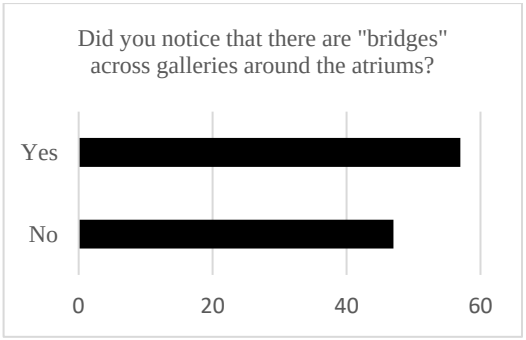


Figure 7.58 Visitor's notice of bridges around the central atrium (source: author)

The next question was whether the "bridges" visually guided the visitor's movements. The results can be compared from two groups based on their notice of the bridges (Figure 7.59). It came out that whether visitors notice the bridge's connections or not, most of them chose their route freely without a specif sequence. According to the previous section's analysis, it can be figured out that most visitors were affected by the visual links. However, it was evident that people who did not notice the bridges got lost more often. In contrast, those who catch the bridges thought the routes were clear. This question was able to identify the visitor's free-choice learning in the museums, and their visit routes were more likely to be related to the visual axes and connections between galleries. Although they cannot understanding or interpret the spatial layouts, the architectural expression still had an influenced on their movements.

In the process of their movements, they were accompanied by the exploration of different cultures.

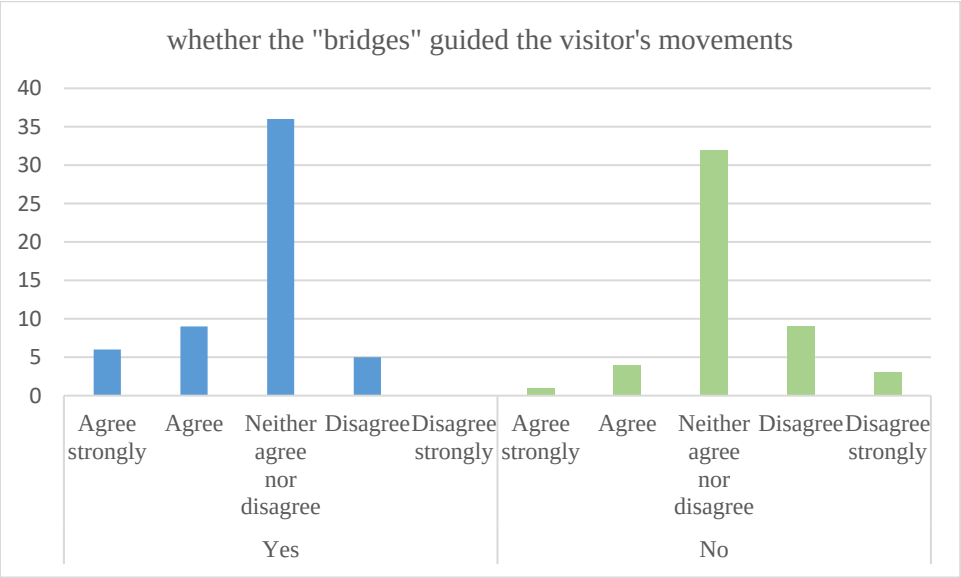


Figure 7.59 The visitor's movements and bridges (source: author)

If the visitor's perception of "bridges" stays at the *expression* level (visual axes), several detailed languages can reflect the visitor's interpretation of the interlinks on the content level, for example, the balcony on the atrium's façade and the two showcases of ceramics from China and British embedded in the wall. The word "balcony" here is used to help the participants understand the architectural language, and it has a close relation to the vista. It provides a suspended space for visitors to compare the old and new buildings. Based on the data in Figure 7.60, however, almost 50% of the total visitors evaluated the view window with "looks good", and 36% of respondents neither "did not notice" nor "did not know". Only 14% gave their understanding based on the options provided by the researcher. It shows that most of the visitors may ignore the implicit language that delivered the concept of interlinks.

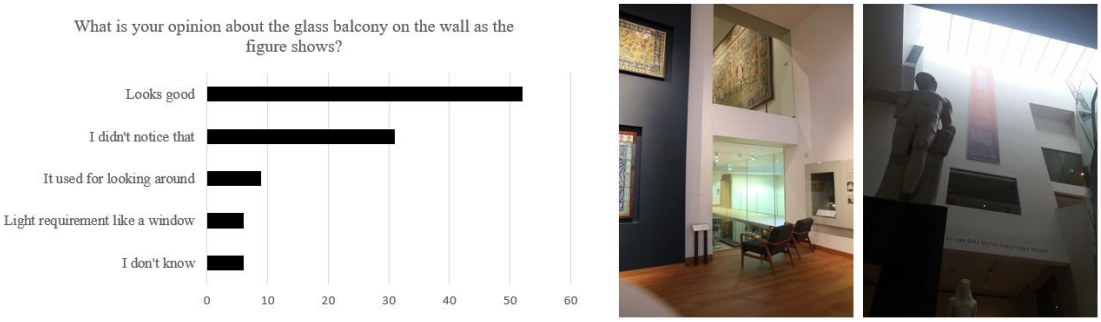


Figure 7.60 Visitor's interpretation of the glass balcony (or the view window) on the façade of the atriums (source: author)

Similarly, the other detail was not altogether got by visitors as well. As Figure 7.61 shows, the showcases are embedded in the Islamic gallery walls, which can be seen as a dialogue of porcelains between Chinese culture and British culture. The survey found that almost half of the participants (46%) choose the option "it looks interesting". It represented that they have noticed it, but they did not interpret it as a way of cross-cultural links. 30% of the investigated visitors did not even see it, and 6% cannot understand this question. Only 15% of the respondents agreed with the option that "it looks like a dialogue across cultures and time." Besides, two of the visitors preferred to express their understanding – "I feel very unobservant" and "It blends with the structure of the room".

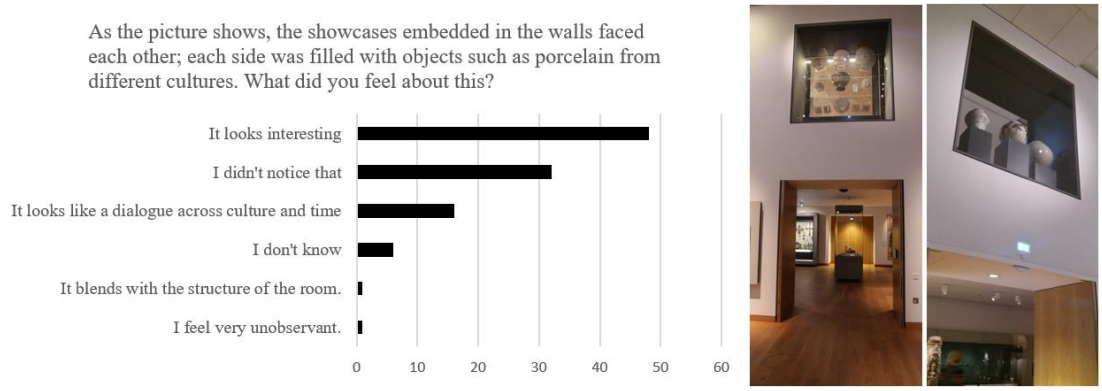


Figure 7.61 Visitor's interpretation of cross-cultural links – the two showcases of ceramics embedded in the wall (source: author)

The last part of the questionnaire examined whether the museum, especially the combination of the two buildings, has created a comfortable viewing atmosphere as most visitors believe that the physical environment was important (Figure 7.62). And it can help to stimulate visitor's imagination and emotional resonance with the exhibits. From the visitor's intuitive perception of the physical environment, almost 70% of the

audience rated the museum as a bright and open environment. 28% of the respondents rated the museum as a traditional museum, while 42% of the visitors thought of the museum with a new context. The rest (30%) interpreted the museum as between tradition and new. Almost 72% of the audiences thought the exhibition galleries in the museum are organised, which is in line with most visitor's choice to visit their own routes. They preferred to choose the visiting routes on their own choices (65% of the visitors), so there is almost a neutral evaluation between linearity and nonlinearity.

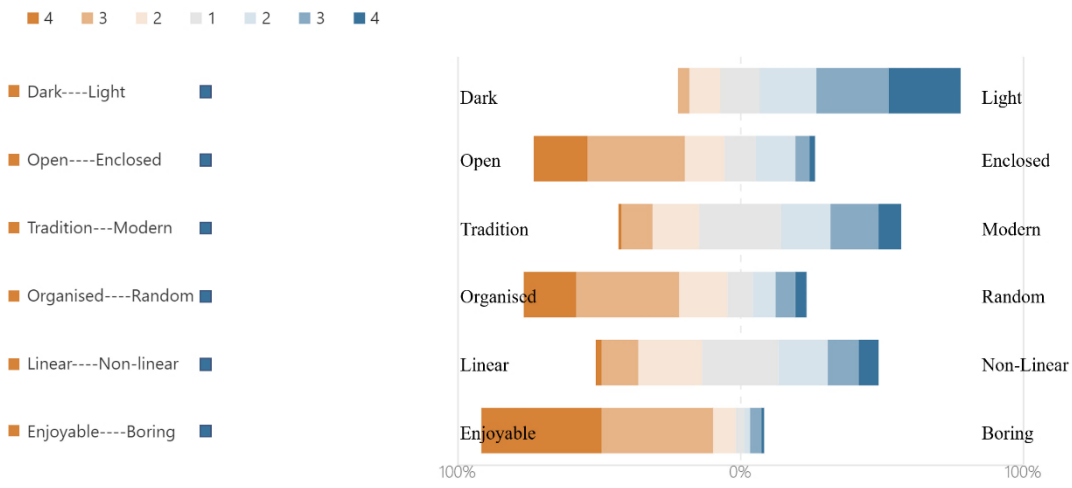


Figure 7.62 Visitor's opinion of the physical environment (source: author)

In addition to the perception of the environment, there is a more direct evaluation of the exhibits. Almost 90% of the visitors agreed that during their visiting process, they had imagined the stories derived from objects they were interested in and empathised with them.

7.3.3 Result analysis

Based on the field study and the survey, the following conclusions are drawn:

The new extension building is hidden behind Cockerell's building, which responds to its surrounding texture. The entrance was changed to meet the demands of architecture. The rebuilt museum does not have to change much in exterior form and shape, and internal narrative context is a starting point. The new context of the museum encourages visitors to experience cross-cultural objects from East to West, across Asia to the Mediterranean and Europe. It has broken the traditional chronologic order of the narrative but simultaneously tells the stories of different cultures to show their

connections rather than their differences. The spatial discourse shapes the cross-cultural links not only generated the dialogues between different cultures but also provide opportunities for observation and interaction for multicultural audiences with other groups.

At the outset of the museum's design, director Christopher Brown identified the core concept of the museum as "crossing cultures, crossing time". The architectural language is therefore expressed in service of this philosophy. The visual connections stimulate visitor's movements to explore each gallery.

The whole survey process mainly shows the spatial layout of the new extension building avoided guiding visitor's routes. However, it still follows to organise the core of the narrative. Therefore, most investigated visitors felt that the museum is organised. The purpose of the case is to examine visitor's experience from the perception of explicit narrative to the cognition of implicit narrative through the metaphorical expression of a crossing-cultural context. Although the investigated visitors cannot explain their feelings, r.e. architectural expression, their movements and cognitions are still affected by these codes, and the non-linear routes encourage visitor's free-choice learning. Although the investigated visitors were selected randomly, a limitation still existed because approximately 30% of the total visitors who volunteered to finish the questionnaire are Oxfordshire residents or studying at the University of Oxford.

Space syntax is a tool to examine the spatial configuration, and it can influence the visitor's movements by measuring the connection between space. However, it is an ideal model and difficult to assess the influence of the exhibition displays on the spatial narrative. Moreover, the influence of narration is not considered in the architectural design stage—for example, the *Greek World* and *Ancient Cyprus* (Figure 7.63). The visibility graph analysis of the ground floor shows the visual transparency of the area located on the axis relative to the other galleries. From south to north, visitors can directly see the cast of a bronze statue of possibly Zeus or Poseidon. However, because of the exhibit arrangements and placement, the visual effects from different directions are not the same.



Figure 7.63 The galleries of the *Greek World* and *Ancient Cyprus* on the axis (source: Lazaridou, 2013)

As the author thoroughly analysed in Chapter 7.2, the spatial narrative and object's narrative are interacted to express the intercultural links mainly through a three-dimensional level. The atriums of the museum become the core of the new extension building, which enhance the cross-cultural communication context. Moreover, the light view and crossed bridges made opportunities for feeling, surprising, and calm. Although visitors did not fully understand the cultural connotations of spatial discourse, such as the bridges and the walls in detail, it subtly affected the way they visited. For example, under the influences of the footbridges and view windows, the audiences freely chose their visiting routes and had opportunities to see the galleries they may not intend to. More importantly, Through this ingenious combination of architectural space and object's narratives, the connection and openness between different cultures are strengthened. Therefore, cross-cultural communication can be interpreted and presented in a flexible, vivid, and metaphorical way. Therefore, The most intuitive response of the visitors to the interpretation of spatial discourse is the free-choice route. The understanding of deeper meaning – cross-cultural links are not enough.

Similar to the Mary Rose Museum, the author did not finish the reexamination due to the coronavirus situation. The author also intended to ask the visitors directly, "did you feel cross-cultures in this museum?" These questions can further collect the audience's interpretations of the museum spatial discourse and the narrative story, which contributes to evaluating the expression of narrative-oriented design.

7.4 Summary

The Ashmolean Museum has demonstrated how to create a cross-cultural medium through architectural discourse. The metaphor conveys the connotation of cross-cultural connections to all visitors. The essence of "crossing cultures, crossing time"

is to create links and references from spatial narrative instead of display collections in chronological order. It is an inclusive topic that can attract various visitors. As mentioned, most Chinese museums of culture and history prefer a chronological narrative to show their collections from palaeolithic to modern times. Therefore, the conveying of the architectural language's narrative connotations are not as important as the symbolic meanings from the social-cultural context exterior.

According to Andrea Witcomb, the Professor of cultural heritage and museum studies at Deakin University, through creating the connections between each exhibition space, this museum could influence the way the public visit. At the same time, the relationships between each gallery will also affect the way the public interprets (Witcomb, 2003; Tzortzi, 2015a). The new context of the Ashmolean Museum provides an organised cross-cultural encounter for various visitors. The museum has transformed from a single exhibition space to a space of cultural links for objects and cultural encounters for visitors, bound to shorten the cultural distance.

The new extension building tells a different story from the traditional historical context. It encourages visitors to experience intercultural objects from East to West, across Asia to the Mediterranean and Europe in an alternative way. On the one side, the expression of spatial language has a close relation to exhibits. According to the framework in section 5.2.3, the various spatial language elements contribute to the core idea of narrative. The following table analyses the most critical discourse that conveys the story of spatial narrative – cross-cultural connections (Table 7.3). On the other side, the visitors have become active participants in this intercultural dialogue with free choice to learn, enhancing their cognition and emotional resonance.

Table 7.3 The discourse and story of the spatial narrative (source: author)

Spatial narrative		Encoding		Decoding
	Gallery	Exhibits display	Architectural discourse	Visitor's interpretation
Explicit narrative (discourse)	Horizontal level	Artificial light; Cross-cultural objects within each theme; Organisation & hierarchy of exhibits; The object's display in different forms: double-side showcases, group exhibits, exhibits on the wall; The different colour of galleries between old and new.	Orientation gallery and separated galleries; Axes between old and new extension building; Visual links and long views through footbridges and showcases; Differences between old and new extensions: enclosed + semi-open space, light and material.	"I noticed the Greek revival extension, and the natural light provided by the new building as I walked within. I don't know the two architecture styles go with each other, but from within, it did not clash too much." "Brilliant example of merging 'traditional' and 'contemporary' architectural design." "It makes the building more transparent to look from inside".
	Vertical level	Organisation and display of objects in different themes; Echoes of exhibits in different cultures; The views of objects on different levels; The comparison and connections of objects.	Central atrium as the core connections; The visual links between different levels; The double-height galleries; Non-linear structure & free-choice circulation; Narrative elements in details (bridges, windows, floors)	"I feel very unobservant" "It blends with the structure of the room."
Implicit narrative (story)	Themes: exploring the past; ancient world; Asian crossroads; west meets east; special exhibitions and European arts. Core ideas: crossing cultures, crossing time – museum becomes medium of connecting different cultures.			

From the table above, it can be seen that each element of architectural language is superimposed a cultural connotation meaning within the context. However, the isolated language is meaningless except for establishing connections with others in a specific context. In other words, each architectural language of narrative design should

be organised and interpreted via a structural system, includes the museum object's narratives. For example, the *signified* of a door is still an entrance or exit. The *signified* of a bridge is still a path across two sides. However, their story is added because of the narrative context. They have impacted not only the movements and perception (visual, smell, or sound), but also the interpretation, imagination of the cognition.

Indeed, the relationship between spatial language and an object's narrative has been a critical issue in recent years due to the social requirements for museums has been changed. This case study confirms the importance of reconstruction and reorganisation of architecture and collections via a new context. It avoids the tandem galleries in a traditional way, especially the views and vistas are created through visual links between galleries in different levels. It also emphasises the importance of architectural manifestation on the content plane – it becomes the discourse of the spatial narrative. Even though the new extension building is invisible to visitors from the exterior, it still became an attractive building via its interior contents.

From the architect's discourse, once they can construct a museum along the Silk Roads, it is worth rethinking their application of metaphorical approach during the design process. The museum no longer exists as a didactic narrative space. The new dialogic narrative approach has offered potentials social inclusion and encouraged visitors to interpret and engage with the museum. The narrative context stimulates their understanding of connections between their own culture and other cultures. Moreover, the creation of the narrative context is not only on the architectural plane but also on the horizontal level. It can become a three-dimensional connection that combines timeliness with spatiality rather than the galleries with chronological orders. Except for creating a symbolic image for the urban context, the core idea of the museum narrative inside can be superimposed on the architectural language to enhance visitor's various interpretations and imaginations.

The cultural connotations of the Ashmolean Museum are conveying intercultural connections and exchanges rather than cultural differences. It provides a place not only for visitors from foreign countries but also for residents and professions from the local area. According to the survey and conversation with visitors, the museum's architectural expression attracts even people who are not interested in visiting the

museum or non-specialist. They can feel the connections even through a short stay in the atriums, the footbridges, and eye contact with other visitors, which is why the Ashmolean Museum was chosen to be the case study. It can be used to reference the narrative expression of the museum buildings for cultural-historical museums of B&R. The narrative approach can be interpreted and understood by visitors from various cultural backgrounds, in other words, cultural and interpretation accessibility.

Chapter 8
Conclusions and Reflections

8.1 The summarises based on research questions

8.1.1 The narrative-oriented design for museums

The thesis asks why it is necessary to propose the narrative-oriented museum design for cultural-historical museums in B&R?

To answer this question, it is first necessary to identify what the challenges to the museums in B&R are. As reviewed in Chapters 1 and 2, a unique challenge for B&R is cultural distance, which is closely linked to socio-political issues and lack of communication between the public. So the museum is then faced with the question of how to improve its communicative nature? This question can be divided into two parts.

Firstly, as was mentioned in section 2.3, the social requirements decide the museum's role in B&R. This study presents the idea of the museum as a cross-cultural contact zone for B&R, which can provide a venue that encourages visitors of different cultures to encounter each other in order to reduce cultural distance. The museum architecture becomes a medium of cross-cultural communication.

Secondly, according to the narrative theory – a common language between architecture and exhibition as reviewed in section 3.1. It is a way of communication applied in various fields. However, a gap exists between museum architecture and exhibition design by Chinese architects. Therefore, this study proposed a narrative-oriented design for museums in B&R. The narrative allows visitors from different cultural backgrounds to interpret when experiencing the museum. The museum provides a spatial context for them. So the building becomes a medium within which to communicate between objects and visitors, which improves the museum building's value from display to communication.

The primary factors of the narrative-oriented design of cultural-historical museums in B&R contain two aspects, which are the specific context for museum design, and the design method. The author completed two case studies to illustrate explicit and implicit narratives, respectively (Table 8.1).

Table 8.1 The measure factors of the Ashmolean Museum and Mary Rose Museum (source: author)

	Different factors	**Ashmolean Museum, Oxford**	**Mary Rose Museum, Portsmouth**
Explicit narrative	Architectural manifestation	Victorian classical style + modernism extension	Design from inside-out
	Narrative space	Random narrative space	Singular narrative space
	Spatial environment	Semi-open	Enclosure
Implicit narrative	architectural language (signified)	The medium between intercultural dialogues	The carrier of Mary Rose's life
	The core idea of museum content	Crossing culture, Crossing time	The time sculpture of Tudor's cultures

The core of these two museums focuses on the connections between building and exhibition rather than merely spatial sequences and visitor's movements. Moreover, both museums create a three-dimensional narrative context that can interlink different layers from a horizontal and vertical level. Both of them make a relationship between "seeing" and "being seen" for visitors.

Furthermore, the narratives influence museum's spatial configurations. Unlike the non-linear Ashmolean Museum, the Mary Rose Museum aims to present a clear narrative line that allows visitors to immerse themselves in the moment of the ship and Tudor cultures. It seeks to tell a complete story and so leans towards a prescribed route for visitors. The route signs can be found everywhere in the museum to lead the visitor's exploration. Visitors can get stories on each part of the shipwreck with a setup

storyline, as the items are displayed in their original position. The core meaning of spatial organisation is to keep the wreck recuperative. The architectural language not only creates the container of the Mary Rose but is also integrated with the ship itself. To achieve this, the architects adopted the design method from the inside out. The museum was built around the opening of the wreck, and the atrium itself is the heart of the museum – the restored Mary Rose. Besides, the spatial language derived from the deck also allows visitors to observe the wreck from different angles, leading to an experience on the ship. With the sightseeing elevators and the glass walls around, the visual relationship is – literally – very transparent. Hence, it is easier for the audience to interpret the core idea of the museum through the shaping of spatial context.

The narrative of the Ashmolean Museum prefers to deliver the links between various cultures rather than the differences. And the visitors can experience this concept during their movements around the museums. The building combines the two parts. The original Cockerell building itself is a part of the narrative of art history, while the new extension building consists of five spatial layers that are linked both vertically and horizontally. In other words, the museum's narrative does not separate cultures from galleries; more specifically, the visual interlinks and vistas through spatial language provide opportunities for visitors to explore the museum both visually and mentally.

To be honest, the logic of this study is very simple, which is to verify that the museum can be designed from the inside-out to tell different narrative themes. The museums in China often invest tens of millions of pounds in order to show the economic and cultural power of a city. However, most of the money is spent on building construction rather than the content of the exhibition inside. For museums in B&R countries, communication of cultural connotations is more important compared with the building itself. Therefore, the narrative is a way to improve the museum's communication. Having identified the core ideas and narrative structure of the museum theme, it is possible to design the architectural language at a deep level. The relationship between the narrative of the museum's content and its container is therefore unique and irreplaceable.

Therefore, to explore the research questions – to enhance the communicative power of the expression of museum narrative to multicultural visitors, the study starts with the

relationship between museum architectural design and exhibition narrative. As Falk and Dierking pointed out, the *physical context* is a crucial element to visitor's learning in museums (Falk and Dierking, 2000, pp. 12-13). The museum building needs to be integrated with the social-cultural context and connected to the museum content. Thus, as the essential feature of the museum is *narrative*, the meaning of architecture should also consider its narrative context inside.

8.1.2 The metaphor of spatial narrative

The second research question: how does the architectural language become a part of the narrative? In other words, how is it possible to express the museum's narrative through architectural language?

To explore this question, as it was reviewed in Chapter 4 – structural linguistics and semiotics, which forms a basic theoretical framework. Firstly, it helps to define the museum as a semiotic system and then to create a closed network between architecture, narrative and museum studies. The museum is a symbolised system of spatial narrative, which consists of objects and architectural narratives. The explicit narrative is the first-order to show the signifier, while the implicit narrative is the second-order to convey the core idea. The objects and architectural narratives can be divided into discourse (expression) and story (content) layers, respectively. The story can be established between them through their discourse layers metaphorically.

Secondly, metaphor is shown to be a tool used by designers, architects, and users, as well as a medium that operates between creators and readers. However, the museum's interpretation by major architectural journals or websites focuses on the language of the building itself and the metaphor of image symbols. The relationship between architecture, exhibition narrative and its influence on visitor's cognition of museum content lacks attention. Although the metaphor is useful and often used, it has not received much evaluation in the accessibility strategies of museums, and there is not much data or theory in the interpretative methods within museums. In other words, the visitor's cognitive conception of the museum's narrative is also as important as the architect's creativity.

Thirdly, metaphor can link architectural language to museum narrative, and it is a way of conveying the core idea of the museum theme. According to Barthes's semiotic system, the architectural language generates a second-order meaning and becomes the narrative discourse. For example, the central atrium of the Ashmolean Museum has a vast plaster cast of Apollo and other sculptures, and a zigzag staircase runs vertically through the atrium. It not only introduces light into space but also creates a dynamic stimulation for visitors who are exploring. The galleries are connected visually to each other through a central atrium, as well as through bridges. The central atrium, bridges, windows, and double-sided display cases embedded in the wall, all these languages constitute the narrative context and serve the museum content. The architectural languages become a narrative discourse in this specific context. However, the single architectural language in the museum has no second-order *signified*, and it can only be expressed within the narrative context because the object narrative has superimposed cultural value on it.

Inspired by the theoretical reviews and practical investigations, the metaphorical expression can become an approach not only to express the architect's concept but to deliver the core idea of museum content from the conceptual aspect. More importantly, this study suggested that the spatial discourse can encourage a diverse understanding of the museum content by visitors. Similar to the abstract narrative of architectural form expressed through metaphor or symbol, the core idea of museum content also can be expressed through the metaphor of spatial narrative to enhance its communication and cognition. As a result, a museum building is unique to its site and to the content it carries. Especially in the space of telling history, the expression based on the narrative plot can enhance the interpretation and resonance of the audiences.

As the architect's expression is ultimately about the visitor's experience, case studies investigate visitors' perceptions of specific expressions – cultural accessibility, interpretative accessibility and emotional resonance were assessed. At the heart of the object, narratives communicate cultural diversity while conveying cross-cultural connections. For example, visitors can enter each gallery of the Ashmolean Museum in the order presented in the guide map. Alternatively, they can choose separate routes to explore the galleries of their interest. Under the core concept of crossing cultures and time, all the different cultural presentations are independent and interdependent.

Through the catwalks and balconies, visitors can establish visual relationships from different perspectives through the central atrium. This experience provides visitors with an excellent view of the museum from different perspectives, and it encourages visitors to wander between the old and new sections, which inspires them to empathise with objects between Western and Eastern countries.

All of the theories and concepts discussed have provided an essential foundation to illustrate that metaphor is not only used to describe the story of architectural form but to convey the core idea of museum content through spatial language inside. The narrative-oriented metaphor is a way for architects to express their interpretations of the museum content. It is a process of decoding (core idea of object's narratives) and encoding (the meaning of architectural language). It can provide a new approach for architects to design the cross-cultural museums along the Silk Roads, which may avoid the phenomenon of one thousand museums being the same, or the building itself does not fit the narration.

On the one hand, it makes the architectural language and narrative into a whole. The architecture is no longer an image symbol but a medium tailored to the content. Accordingly, museums are identifiable rather than one expression approach for a thousand museums. On the other hand, this expression approach helps promote visitors' cognition and interpret the museum's narrative based on conceptual metaphor theory. It provides a place for communication between visitors and objects, objects to objects, and visitors to visitors. The museum space does not only affect visitor's movements. It will construct a three-dimensional context to encourage visitors to explore more content, just as the Ashmolean Museum and the Mary Rose museum.

Therefore, this study proposed the narrative-oriented metaphor to improve visitor's various interpretations and cognitions. The connotations through metaphor provide an open-mind interpretation for visitors from different cultural backgrounds, especially in cultural-historical museums in the context of the B&R. It can create an active connection between visitors and the museum content and enhance their understanding of the museum concept.

8.2 The guideline for architects

The “Belt and Road Initiative” itself is politically and economically motivated. There is no denying that most countries outside China consider it to be aggressive and negative. Judging from China’s history, she lacks a voice on the world stage. The author refrained from expressing too many views on politics and only focused on strengthening cultural exchange in-depth research. Museums are the medium of conveying cultures, which simultaneously display, educate, and entertain the public. A museum is where facts can be told from a neutral perspective, especially cultural-historical museums based on scientific research. Therefore, the author suggests building the museums of cultures and history with the Silk Roads theme as the platform for public sharing and communication, just like the V&A, Tate and Guggenheim Museum.

From an architectural perspective, architects are better at designing from the macro view of a city, and the architecture becomes the symbol that adapts to the urban fabric. However, if architects (especially Chinese architects) only use museums to highlight their concepts and value while ignoring the display content, the museum building becomes a symbol of a personal vision. Therefore, the thesis criticising the traditional approach of museum design and proposed the new idea of cross-cultural museums for B&R. Therefore, the outcome of the research is to present design guidance for museums, especially museums related to culture and history.

According to the discussion above, the initial planning of a cultural-historical museum can be divided into the following steps:

- A unique core idea of the narrative-oriented design from the inside-out can set a unique context for different museums. The professionals have rich knowledge and research to construct the narrative structure. The spatialization of the narrative framework is created based on the core idea or cultural connotation of the narrative as a whole (Figure 8.1).

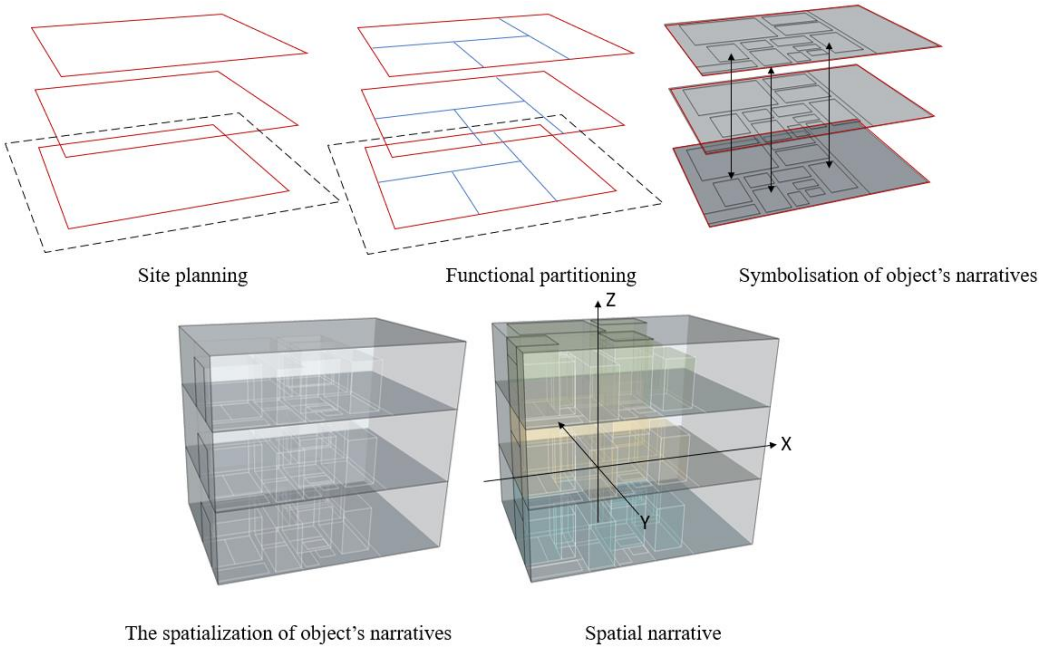


Figure 8.1 The symbolisation and spatialization of objects based on the narrative framework (source: author)

- The design of the museum building is based on its site analysis, for example, the entrances of the museums, streamlining of different groups between visitors and staff, and the functional configurations. Then, the basic foundation of the museum is defined;
- The key step is to express the architectural language both from inside-out, which combines its narrative framework for the exhibition areas (Figure 8.2), as well as its urban fabric, to convey the building's cultural meaning (social context) and museum content (the three-dimensional narrative context);

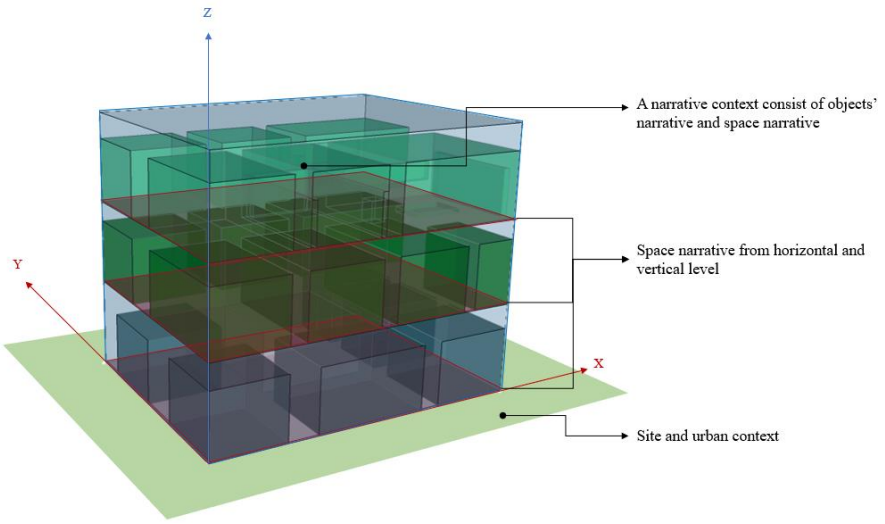


Figure 8.2 The narrative context from a three-dimensional level (source: author)

Several suggestions and conclusions for guiding architect's discourse for designing museums in B&R are worth mentioning:

1. Based on the author's interviews with architects and curators in section 2.3, it shows that the museum architectural design and exhibition narrative are still separated stages. There is a difference between museum architecture and the museum itself. The museum narrative is a secondary space design, which is faced with unreasonable spatial form and configuration. According to the semiotics, designing a museum is an encoding process that includes objects and architectural language. Objects are coded to make them easy for the audience to interpret, so the architectural language is coded to create an environment that suits the object's narrative. According to semiotic and conceptual metaphor theory, architecture becomes a symbolic sign, conveying the signification (connotation) of its surroundings. The symbolisation is therefore inseparable from this context. These two aspects complement the premise that the cultural meaning implied by the "museum" is conveyed in a specific context.
2. As mentioned in the previous section, metaphor is a way that makes architecture readable. It builds a bridge between the architect's discourse and the user (visitor). The metaphorical expression of the spatial narrative becomes the critical point instead of just considering the visitor routes on the level of *expression*. In other words, the galleries of different layers can be connected not only by the vertical circulation but also by the architectural language based on the narrative content. The narrative-oriented design is the way to express the core idea of museum content under the museum three-dimensional narrative context. It conveys the implicit cultural connotations integrated with exhibition narration through architectural space language (Figure 8.3).

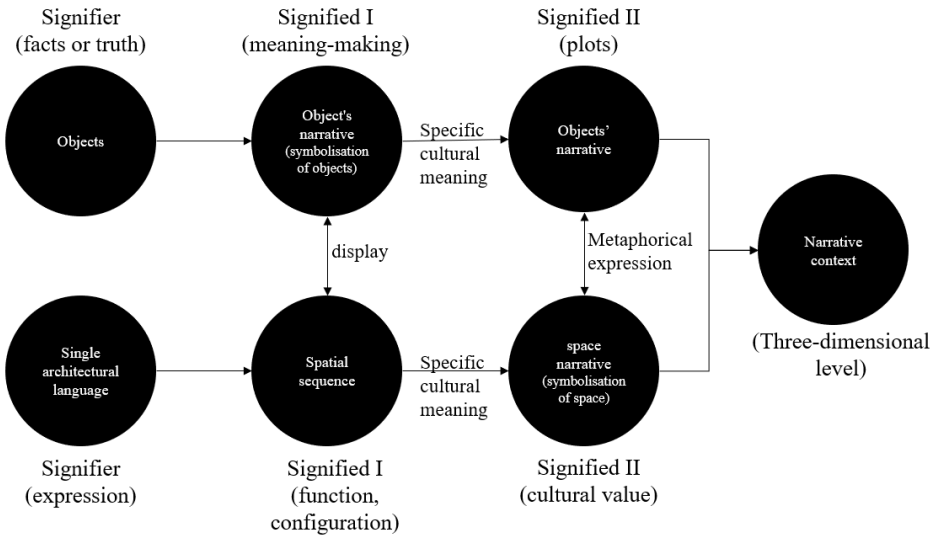


Figure 8.3 The levels of narrative context (source: author)

8.3 Research value

The expansion of museum buildings in China is different from the UK in several respects. When Britain hosted the first expo in the Crystal Palace (1851), the concept of the museum had not yet appeared in China. The museums in the UK, especially the cultural-historical museum, have hundreds of years of history, such as the British Museum and the Ashmolean Museum. Hence, most of the museums focus on objects collections and displays. However, the museums in China are in a booming stage of development nowadays, and the rise of the B&R Initiative provides an opportunity for cross-cultural exchange. China has sufficient strength to interpret and display multi-culturalism and civilisations of the countries along the B&R in an equal and positive method to build cultural trust. With adequate support, museums have access to a wide range of multimedia and VR technologies. But this also leads to a result that the museums emphasise the architectural manifestation and ignore the communication provided by object narratives inside them. Although the building becomes an internet-famous site to entertain visitors – the original role of the museum – education and study has been weakened. Therefore, it is the shared responsibility of the designers and museum professionals to find a suitable way of communication, both from the exploration of the narrative context and the in-depth understanding of local cultures.

This study offers a new way of thinking about intercultural communication in B&R. As such, it requires a rethinking of the design of museum buildings. Traditionally, the

design of museum architecture and museum content is separated. When architects design, they do not consider the effects of their language on the museum narrative. The museum design from a social context generates a universal phenomenon that the form and shape have determined the museum rather than the narrative. The architects focus on the function and symbol of the museum and prefer to create a symbolic landmark. According to the theory of rhetoric, metaphor is a figurative language based on analogy and similarity. For this purpose, metaphor is a way to convey symbolic meanings to the public. In this way, the museum building becomes a monument in the context of urban development and cultural identity. The narrative of the museum and its relationship with architecture is disconnected.

After understanding the theory of linguistics and semiotics applied to architectural language, and the metaphor in cognitive theory, the author reflects on the role of the architectural space of museums because it is more important for museums to tell stories from different cultures than to create architectural symbols in the B&R context. Therefore, the author has explored the way to enhance visitor's cognition through architectural language. More specifically, museum design should be a continuous process instead of creating a container. The *container* refers to the functional aspect of the museum building. According to the case study of the Ashmolean Museum and Mary Rose Museum:

Firstly, the meaning of museum architecture should be expressed in both the internal and external context. The social context influences architectural manifestation, while the narrative context inside is a critical element for visitors' learning and access, which offers an environment for the visitor's interpretation. Thus, the narrative-oriented design is an approach to get a balance between architectural perspective and museum studies.

Secondly, a narrative-oriented metaphor can become a way to deliver cultural values in a specific context inside the museum. It is not only a functional *signified* of spatial language, but also represents the communicative aspect that contributes to visitor's interpretation. The museum becomes a cross-cultural contact zone that encourages visitor's perception, interpretation and imagination both with objects and other groups.

8.4 The limitations and further research

Although the study's logic has been reasoned and verified through the theoretical framework and case studies, it still has some shortcomings.

Firstly, the metaphor has been applied as a way to enhance the communicative nature of museum architecture. However, against Lakoff and Johnson's conceptual metaphor theory, the objection opinion of metaphor existed widely. Elisabeth Camp mentioned that metaphor lacks rational discourse, and it has deception (Camp, 2006) because metaphor interpretation is subjective. Experientialist scholars also refused to treat metaphor as a general cognitive mechanism. They think that metaphor does not consider the diversity of linguistics during deep-level cognitive mappings (Cameron, 1999). As Caballero quoted Goatly (1997:42) in *Re-viewing Space: Figurative Language in Architects' Assessment of Built Space,*

> Although Lakoff and his followers see metaphor as primarily a cognitive phenomenon ... I stress its linguistic and textual nature. Cognitive metaphors have to find expression in some medium, and when the medium is the language, the form of the expression will have important consequences for their recognition and interpretation.[105]

The thesis pointed out the potentials and risks of using metaphor in architectural language. The metaphor has the potential to communicate the signified both from the expression and content plane. And it also connects the new concepts with visitor's pre-knowledge. But as mentioned in Chapter 3, metaphor is difficult to recognise or differentiate cognitively because of the subjectivity of the architect's discourse. This issue may lead to cultural inappropriateness or conceptual misalignment with the objects.

Moreover, this research focuses on the architectural language and its impacts rather than the exhibition design. It takes the core idea of the museum as its context. However, the factors of colour, light and the organisation of the objects cannot be measured

[105] Rosario Caballero. Re-viewing Space: Figurative Language in Architects' Assessment of Built Space [online research]. Berlin & New York: Mouton de Gruyter, 2006, p. 47.

because the specific details are different in each museum, even each gallery. It requires close cooperation between architects and curators during the construction process.

Finally, due to the situation of COVID-19, museums have been closed for several months, right before the author intended to do more analysis on-site. Simultaneously, the pandemic also aroused reflections for museums, especially the spatial requirements of physical museums. The pandemic led to the closure of museums for a long time because it was challenging to maintain social distancing within a museum. In the author's view, for free-choice learning, the museum could consider expanding multiple narrative lines to accommodate the scattered stream of visitors. Or, in the linear narrative of Mary Rose Museum, visitor's face-to-face situations could be modified. However, there is still a need to control the flow of people tightly. Also, the enclosed space is not conducive to fresh air. In this case, the museum design from the inside out could be expanded to the *interaction between inside and outside*. The museum needs an adaptive space to satisfy a different situation. The interaction between inside and outside can also bring more possibilities for narrative creation. This concept becomes a possibility for further research.

By discussing the shortcomings above, the author realized that no matter how one treats metaphor as figurative language or conceptual cognition, their common insight is that the metaphor is relevant in a specific context. By extending this concept to the museum buildings, this contextual environment includes the macro-social context and micro-narratives. As metaphor is a way of communicating, not a symbolic assumption, sometimes there is a difference between literal and conceptual metaphors. For museum design, both figurative metaphor through similarity and conceptual metaphor can play a role in communicating. The cognitive influence of audiences is an important aspect. It is also the embodiment of the communication effect between a museum and its visitors. As Natalia Toronchuk said in *Metaphor, Meaning-Making and Museums*,

> Perceptions are based on the framing of an object, whether this is a literal cropping of an image, or metaphorical framing using some kind of conceptual

framework. They can alter and enrich our understanding of reality, especially for difficult to understand concepts.[106]

Among the above conclusions, there are a few insights for museum design in the context of B&R. The global pandemic has vastly influenced physical museums in 2020. Moreover, unlike the previous need to shape people's beliefs through architecture,[107] the growth of media has weakened the communicative significance of architectural entities. In this circumstance, both Chinese architects and other countries need to rethink their design method and discourse for the museum buildings. Most of the time, the architects reflect on their interpretation of the world and various cultures through cultural facilities such as museums. So architectural discourse is an integral part of the museum's development. This study is both a design guideline and a critical reflection of the museum design system in China. Indeed, the museum development cannot be separated from the social-political background. Sometimes, the architects are limited to regulations. Therefore, the limitation between architects and social-political issues can be further discussed.

[106] Natalia Toronchuk. Metaphor, Meaning-Making, and Museums. Available at: http://articles.themuseumscholar.org/vol2no1toronchuk. Accessed date: 13th July 2020.

[107] For example, the Egyptian Pyramids, ancient Greek temples and the Forbidden City are all symbols of royalty and theocracy.

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2017-18 academic year only

Ethics Committee Reviewer Decision

This form must be completed by each reviewer. Each application will be reviewed by two members of the ethics committee. Reviews may be completed electronically and sent to the Faculty ethics administrator (Donna Astill-Shipman) from a University of Nottingham email address, or may be completed in paper form and delivered to the APM Hub

Applicant full name ……Chunhui Zheng - Resubmission……

Reviewed by:

Name ……DE13……

Signature (paper based only) ……

Date ……01 August 2019……

- [x] Approval awarded - no changes required
- [ ] Approval awarded - subject to required changes (see comments below)
- [ ] Approval pending - further information & resubmission required (see comments)
- [ ] Approval declined – reasons given below

Comments:

Please note:

1. The approval only covers the participants and trials specified on the form and further approval must be requested for any repetition or extension to the investigation.
2. The approval covers the ethical requirements for the techniques and procedures described in the protocol but does not replace a safety or risk assessment.
3. Approval is not intended to convey any judgement on the quality of the research, experimental design or techniques.
4. Normally, all queries raised by reviewers should be addressed. In the case of conflicting or incomplete views, the ethics committee chair will review the comments and relay these to the applicant via email. All email correspondence related to the application must be copied to the Faculty research ethics administrator.

Any problems which arise during the course of the investigation must be reported to the Faculty Research Ethics Committee

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Architecture & Build Environment
University of Nottingham
Faculty of Engineering
Nottingham
NG7 2RD

Curator/architect's interview

Title of Study: Relations between museum design and exhibition design

Name of Researcher: Chunhui Zheng; chunhui.zheng@nottingham.ac.uk

Participant consent and research ethics statement

This survey is part of a doctoral research project that has gained ethics approval from the University of Nottingham. Your responses will remain completely anonymous. More details of the study are given in the Participant Information Sheet provided by researcher. Thank you for agreeing to participate in this research. The survey may needs to follow with your full participation to complete. Remember your participation in this study is completely voluntary and you may withdraw at any stage.

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Architecture & Build Environment
University of Nottingham
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Nottingham
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Part 1. Questions for curator:

1. What do you think of the relations between architectural design and exhibition design in museums?

2. Within a multicultural environment, what is the key points or characteristics of museum narrative(storytelling)?

3. Did you have any experience with this kind (cultural diversity) of design? Please give a short introduction about the big idea, process and visitor experience of this exhibition.

4. What is the general idea of redesign an exhibition in an existing space? Especially the relations between the space and exhibition.

5. Did you think whether it is important when the building was designed for the museum, it was fully considered the different theme of an exhibition in the future?

6. Please give some ideas about future exhibition development, especially along the Silk Road.

7. What do you think of the challenges in the B&R in terms of the museum building?

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Part 2. Questions for architects:

8. Could you please describe a project about the museum and the purpose of this project?

9. What are the beginning idea and the concept of this project?

10. How to respond to the local environment and public requirements? For example, the architectural language, the façade and the details.

11. How to balance both the design concept and local public requirements? For example, whether the architecture with amazing appearance and space will arouse the visitor's neglection about the exhibition itself?

12. Was the original design fully considered for future utilization? For example, the redesign process of the exhibition.

13. What is your opinion on architectural design and exhibition design? How to adopt a different type of museum?

14. When the museum will build, what is the role of architects among all the professions?

Interview transcript

Researcher/interviewee: Chunhui Zheng

Architects

Liu,M and Wang, J

1. Interview with Mr Liu, and his assistant Mr Wang.

Date: 10/07/2018

Location：reception hall

Total recording time 20:20

What is your opinion about exhibition design and space design?

Recorded on WAV format.

Liu Mingjun, Chief Architect, Beijing Institute of Architectural Design

00:00 Zheng： Hello Mr Liu, can we start if you are ready, I have written in English and here is a Chinese translation. You can just speak Chinese. The interview will last about twenty minutes.

Liu： Hahaha, no problem, I can only speak Chinese. English doesn't work.

Zheng: The first question is, well, you must have done a lot of museums (Liu: yeah), can you give me an example of a specific type, like a multicultural (Liu: yeah), and tell me a bit of what kind of project it is? What is the purpose of this project?

Liu: Hmmm...got it. Well... I'll start with one is what we have now... that's what you can see ah, Beijing China International Exhibition Centre.

Zheng： Hmm.

Liu： Well, the new pavilion. The actual design of this pavilion is, first of all, a combination of three types of design, I think.

Zheng： Hmm.

Liu： The first one is German culture (Zheng: hmm). Why? Because it is the exhibition industry, the most developed in the world is in Germany, so we have done a lot of research on why the whole industry in Germany is so formed (Zheng: hmm). I have been to Germany for a long time to see how these things work. Secondly, this is a pursuit of American culture because our partner is an American company. We have also investigated some famous exhibition halls in the United States. It should be said that some elements of the United

States are also available. Of course, there is another most important reason – the project is located in China, isn't it? (Zheng: Yes) For example, China's regional characteristics, Chinese habits, and the development stage of the Chinese exhibition industry. We cannot say whether we are advanced or backward. This is a stage. I should say Germany, the United States, and China, the project is a fusion of these three cultures. This is visible, and you can go to see this new national exhibition when you have the opportunity.

02:33Zheng: Sorry to interrupt you for a moment, but you mentioned the development stage of China's exhibition?

Liu: I think it should be to a point where, firstly, I guess from nothing to something, which is the first point. Secondly, from something to something big, and then from something to something professional. I don't think it has necessarily reached the stage of being very professional or exceptionally professional. I believe there is still a certain distance to go to be exceptionally professional.

Zheng: OK. So could you please tell me more about the China International Convention and Exhibition Centre, for example, what was its design concept at the beginning?

Liu: I don't know how to say it. Because the concept is actually a… I don't know how to say it because it's a concept that we're rather specialised in. We call it fishbone, fishbone type of concept.

Zheng: So why this fishbone shape? It's to do with its later function, the theme displayed inside...?

Liu: As I said earlier, the geographical characteristics because the site is so big, right? The second is the German model, the German exhibition industry development, and the third. It has some architectural scale of the American architecture, the combination of these three. It comes out with such a thing.

04: 04Zheng: So that means that these factors respond to the needs of the site, right? It's about the local environment...?

Liu: Yeah…

Zheng: What about the public demand? It's about the form and language of the building...?

Liu: Is it a functional need?

Zheng：Right.

Liu：The functional requirements, well, in fact, in this, I have just talked about a little bit, in fact, any of them are our endorsement, that is, the audience or the users or, etc... are our endorsement. But this issue is also our next step to change. I don't want to be our discourse because the audience should voice their requirements. But here, it needs a vast database. That's one of the next steps we're going to work on.

Zheng：That is, the next step you would, for example, survey the public before doing...

Liu: Yes. like you, for example, you are a student at the University of Nottingham in England, a PhD, right? You certainly have your direction, you have your perceptions, you have your judgements, and we should all add to that, right? But the pathways here have to be particularly variable, and you can't come over here on a plane and ask me, can you? You should use modern means and solve these problems, right? That's what we're pursuing.

Zheng：That is, when you were working on this scheme, how did you balance, for example, its design concept with responding to the needs of the surrounding area?

Liu： It's all about how to strike a balance, isn't it? In fact, this, as I said earlier, is the accumulation of thirty years of experience, of experience.

05：37Zheng：Because in the previous section, we were talking about the architecture of the scheme, the form, etc., and as an aside, I also studied architecture as an undergraduate. When you designed this, did you consider the future use, for example, the theme of the exhibition?

Liu： Of course, it was considered.

Zheng：And can you talk about how you think about it?

Liu：Well, there are actually several elements in this. The first one is that we have to consider the efficiency of the rental, right? Another point is the convenience of the visitors. For example, whether the visitors come to this place is convenient, that is, humanistic care. You have to consider this piece, including the bathroom and restaurant, etc. Their time and feeling here are all our concerns. Of course, there are also exhibitors in this, and exhibitors are actually concerned about the evenness, how to set up the exhibition, from its progress, set up, display, withdrawal, etc., this series of processes, we can provide a very good service, these from our design point of view, we can provide a convenient, such as where is the

entrance, it is a big difference, right? If you're studying architecture, you'll understand it as soon as you hear it, and that's what it means.

Zheng: Have you considered the theme of the future exhibition, for example, the theme of the permanent exhibition, which is historical, cultural, technological...?

Liu: No, what you say is not considered.

07:24 Zheng: In all your years of experience, what is your understanding of the relationship between architectural design and exhibition design?

Liu: Well, I can understand that. After so many years, from the perspective of architecture, I think architecture and exhibition, as I know, are both in a period of change, which involves? I think the difference of materials is also the next step, including how it is built, will change, not the way it is now. In fact, we can do exhibitions, and architects can do exhibitions better than others.

Zheng: So, what do you think are the advantages of museums in this multicultural environment compared to some other cultural institutions? For example, in the context of the Belt and Road, as I study this direction, what do you think museums' role is?

Liu: I think in fact, one of the most important things about museums, you see, is actually the theme, like the question just told by the director of Liang, the first is storytelling, thematic, right? In the past, it was all about the classics, for example, putting collections up here, putting them up in a room, and let the visitors see by themselves.

Zheng: Yes, museums were first used for educational, research and collecting functions.

Liu: These are not enough. It also needs storytelling, a thematic narrative. I think the outreach part of the exhibition is now completely underplayed, so to speak. Why? The means of the exhibition are diversified, aren't they? If it's still like the past, I'll get a light to throw on it and write a text, as curators do nowadays, they'll write a passionate article for you and then make a few so-called nodes, and the job is done.

Zheng: yes…

Liu: Because you know what, the limited space it has, the contents it contains must be limited, but the museum's content should be unlimited, right? I don't think any of your themes will work, and I'm telling you what the difference is, it's the difference between a department store and Taobao, right? Why are department stores, shopping malls not as good

as Taobao? Taobao is infinite, and you can't open as many counters in the mall, the space is limited, the limited space can't resist the infinite, so I think the next step is how to solve this problem. I think your generation is going to solve this problem, not our generation to solve the problem, and the responsibility is yours.

10：49 Zheng：I would like to ask you again, apart from the architectural, historical and cultural aspects and the business model you mentioned earlier, what other factors do you think influence museums?

Liu： Which parts?

Zheng：For example, in the design process of a museum, apart from considering whether the building echoes the environments, whether it meets the business model, or its human, regional and historical aspects...?

Liu：What else should be considered? Convenient buildings, right? How do you get involved? Can you get involved? The ideal museum is one that we can get involved in. Have you seen that American film called Night at the Museum (Wonderful Night at the Museum)?

Zheng：Yes.

Liu： That's participation, isn't it? You see the exhibits come to life, right? I think museums should be like that, museums tell stories, right? You talk about storytelling half the time though, where is it?

12：00Zheng：OK. Two last questions. What do you think is the workflow of designing a museum, with all your years of experience.

Liu： Ask for our Mr Wang, he is particularly professional.

The interview continues with the assistant of Liu, Mr Wang.

12:17 Zheng：Mr Wang, could you please talk about your opinions?

Wang：Good. Which one?

Zheng： It's about what the workflow is like when designing a museum

Wang：OK, the process of designing a museum. Firstly, the first thing is to clarify the museum type. Because nowadays, there are many categories of museums, including nature

museums, science and technology museums and various special museums. So the first thing is to clarify the classification of the museum. Secondly, the designer should understand the exhibits of this type of museum, including its exhibition line, and its content, etc. The design of a museum should be based on an understanding of the exhibits, the exhibition lines, the content and so on. It is also related to the characteristics of these elements, including science and educational aspects. For example, if it is a cultural museum, the relationship between its exhibits, its exhibition lines and its content will have special requirements for the space you design. Their understanding should be specifically analysed from the perspective of design. In terms of process, the design of a museum should be inseparable from the scientific organisation and creative play of these basic elements and knowledge, and the scientific organisation of its inherent functional content, and its own museum characteristics, and its need for publicity of this basic function, must be its cornerstone.

Zheng: Yes, you mean the requirements of function and circulation.

Wang: And the creative play is how to tell the story, just like what Mr Liang said, the expression of your story and the way to participate in the story. The creative part can be expressed in different ways, like what Mr Liu said earlier, maybe in a cross-border way of thinking, across industries. For example, if you look at humanities with the eyes of nature, or if you look at a philosophical problem with the eyes of science. Or you can look at a scientific problem with the eyes of philosophy. When you look at this category with a different dimension, you will generate new ideas and new outbreak points. This is the second step in the process. Finally, we get the result, that is, we finally design a corresponding work for the museum at a certain point in time. This museum work may be a combination of the previous two. One is the foundation, the other is the creativity, and finally, get a very good museum work at a certain point in time.

15: 37Zheng: OK then, please let me ask you one more question, that is, when you designed the museum, how did the space relate to the subsequent exhibition? It's like saying that the exhibition is actually a secondary design of the space, right? What is your opinion in this regard?

Wang: Of course, museums have been in development for a long time, and it should be

said that the space of a museum is a background, always a background. So the connection between the space and the content of the museum is a crucial consideration. In terms of space as a background, its adaptability should be the most important, to adapt to different times and different exhibition needs. This connection is the most important condition. So the museum's design, including the exhibits and the theme to be presented, or the combination, are always the main proposition.

Zheng: I have one more question: What do you think is the future direction of Chinese museums?

Wang: In terms of the direction of the development of museums, this is a bit of a big topic, so I can only say that I have a personal understanding of it. In terms of the direction of development of the museum, it should be more towards standardisation.

Zheng: So you think it's not standard enough now?

Wang: Because this first clear this museum theme and content is different, is a thousand different, then how to present the content and theme, do not take the museum's own space as a noisy part, I think this is always the designer needs to consider the problem, I just said the museum space is always the background.

18: 30 Zheng: I would also like to say that there are many museums, for example, the Guggenheim Museum in Bilbao, which is equivalent to revitalising a city with its museum architecture. How do you understand this phenomenon?

Wang: It should be said that this phenomenon is, in fact, a relationship between the building, the museum and the city. The museum has several important attributes: one is its own architectural attributes, its museum theme, and another is its position in the city. Of these three, the example you have just described forms a new urban node in the specific language of architecture. And then it has its own public character. The museum has a public nature. Through this public character promotes the specificity of the building and therefore has an impact on the city. This is how I understand it. In a sense, the building promotes its IP through the medium of the museum, increasing the publicity effect and creating an activation of the city, achieving this effect.

Zheng: Good. That concludes our interview. Thank you both very much for your cooperation.

Curators

David, F

2. Interview with David in this interview.

Date: 22/06/2018

Location： reception hall

Total recording time 26:41

What is your opinion about exhibition design and space design?

Recorded on WAV format.

00:00 Zheng: Yean…so…

David: Just before we start, how long the interview you want to do?

Zheng: I think it will take about 20 mins.

David: No problem.

00:13 Zheng: So, the first question is what do you think of the relations between architectural design and exhibition design? So it mainly refers to the architects and curator, I think.

David: I think, mm… what's interesting is er… so one's architect and (another's) curator, so that idea maybe a China based model.

Zheng: Yeah…

David: And in the UK, what you have the curator, would be someone like Adam, who can use the main knowledge of the objects.er… and then, you know, because the knowledge of objects, they fitted into the exhibition design, which created by the designer. Er… well, I think in China, you have architects, you have to build of the buildings, and then you have…like curator in exhibition design, they almost the same kind of thing. So I think, the two different, I think there are two different model are happening in the country. Errr… yeah, and then, what I think is particular interesting about China, is the your option of have these architects to create big star buildings, and an good example comes to my mind is the museum of Beijing. Er…

Zheng: Yeah, you mean the landmark…

David: Yeah, the big kind of thing. It's like there is… which is a part of China's exhibition, you know, kind of… or just architectural cultural building. These big standout projects,

kind of that… and then thinking about what's fill in. That's also… that's something that as well as happen a little bit in the project like British Museum with the time at middling east with Shakespeare National Museum. So you build your treasure box as what qi said, but you don't really think what the treasure is until you put that in afterwards, and also I knew, from working at British Museum with architects, there is difference between architects and exhibition designer who work with objects. So architects are the men "this is my plan, I'm gonna pose this like…" you know, when you doing the design, is was exposed, and you gonna fit your objects to that, and after that it can be empty test. That being said, you case study of Ashmolean is interesting one, it is rare moment that you've got existed collection, and you trying to integrate that with new architectural building that almost tell the whole story of it, and I think what I said about the Ashmolean, I think it work kind of intellectually, but it doesn't work emphatically. So, it feels a bit like it's lost some of the, Mr. shubei, who first day said, all you build these new building from you lose the soul of them, you get rid of the kind of, you know, I feel lots of them from Ashmolean. I mean that, it sounds a bit like you go in, it is a bit like a shopping centre, you're looking objects here and a lift going "ding", and so it takes away from the soul of, the magical of the museum. Which can be contrast, did you know Pitt River in Oxford?

Zheng: Yeah, I knew that.

03:25 David: Yeah, the Pitt River is much more like wonderland, kind of thing when you going through with the old objects, and you kind of exploring it. So I feel that… I fee… that those kind of main sort of thing, kind of going there.

Zheng: I knew, but I think in China, the curator now… is introduced in China recently, because we have experts like archaeologist, and the palaeontologist. We have the people there, but they didn't, you know, with the responsibility of that, and the real, like in my group, they are doing their design work, doing the exhibition design work, they have the background like the interior design.

David: Yeah.

Zheng: The architectural interior design. You know, so I think this is really different with UK. Because the curator in UK with the professional knowledge.

David: Well, I think let's look what this about, yeah? I think there's knowledge about

museums like combing, the multi-model here we say, you telling the story with variety, with different things, you telling it with objects, you telling it with space, you telling it with texts, you telling it with graphs, you telling it with digital media. Like as results in the UK, most curator have objects specialism, and sometimes things can be too heavy, the favour of the objects, so example maybe like we've got loser objects, and people can't really understand, or the terminology was very scientific. So yesterday, there was the nation… the director of Shanghai…

Zheng: Shanghai Natural History Museum.

David: Yeah, he was kind of talking about how he, his probably dissect with these scientific terminology for the average visitor. So there is advantage well about having someone who isn't professional involved in, isn't like subject specialist involved in the creation, so doesn't something non-subject specialist come and understand, there is no relevant to them, they are just focusing on the notion transit. So I was thinking that's the thing about museum exhibition, there's collaborate process. It's create a dialogue bring together, not one person can make them, it's not like the author of a book. That's why dinosaurs of China is really good, because qi and Adam, you have two really good, both specialists in that field. So they can crossover, qi knows a lot about dinosaurs, and Adam knows a lot also, and they can try to make collections accessible to the public.

06:32 Zheng: So, er… let's go to the second. Under the multicultural environment, people always say about the globalisation. And what do you think of the key points of the characteristic of the museum narrative?

David: Well, er… the relations with multicultural environment?

Zheng: Yeah…

David: So I think it's interesting what qi again thinking about multiculturalism, and UK and China, yep? Would you say China is multicultural environments?

Zheng: er… I think the concept is really different. Because in UK, it's more about the ethnic groups, right?

David: yeah…

Zheng: right? but in China, like we have different, like 56 groups. So it's a little bit different, but in the cities like Beijing, Shanghai, Shenzhen, Guangzhou, yeah, we have a lot

foreigners now. So I think this is… a kind of… yeah…

David: I think it is interesting to think about multiculturalism in both way, so British part of multicultural because it was in period of emperor, especially 19 century. So we've a lots of people from across emperor ending in Britain. And this create multiculturalism has been a way to try integrate way, so immigration from those countries into Britain, and create a cohesive, create harmony in this way, and there is critical to solve it. And I think like lots of, I am very much proud the idea, what I told about the "Hajj" exhibition in British Museum, and so you know. The exhibition which is aiming to tell the story about the ethnic group in Britain, or the religious group in Britain, that not a lot of people know of… that's kind of close stuff. Er… and by knowing and understanding that, you're more likely to be able to, you know, feeling finicky with Muslim in Britain. I think China has the similar thing, you know, the 56, you have 56 different… flowers, and also, you know, is the Hui? Who the Muslim group?

09:08 Zheng: Hui? Yep, yeah, the Hui.

David: yeah, they are the group, kind of, you know, marginalised, and you know, faced discrimination. And because of fear, because of fear almost the terrorists.

Zheng: Sorry, I think that is the group of Zang in Xinjiang instead of Hui.

David: Oh, Zang, sorry. I think, you know, China face the similar issues about integration, and about multiculturalism in showing and understanding the narratives of the different, of the non-Han majority people.

Zheng: yeah…

David: in China. And I think you know, this… the particular things as well, China has particular relations with that ethnic cities, you know, it always go to museum, the customs, the clothes, and Chinese people, you know, when they go on holiday, to say, Yunnan, you know, the dress thing in Yunnan, the things like that. And I think this is different way to exploring how ethnic city is, and what's its means to be. One of the minority ethnic city in China, the museums could really do and express. And I think the good example of this, is the you know, the museum of ethnology in Beijing?

Zheng: Yep.

David: they don't have a building, ye? They don't have a permanent exhibition, so they do

touring ones. So I think, you know, that's really vital story, a narrative for China's tell.

10:38 Zheng: I notice that you mentioned about the Hajj exhibition in British Museum. So before you do this case, what you think about that? Did you preparation, like the visitors, to interview them, and er… to ask about the requirements?

David: yeah, we did a lot of research before, between muslin visitors and non-muslin visitors, to see what they were think, we won't even sure muslin visitors will be happy for the British Museum to show the exhibition about the Hajj. Because British Museum is associated with region prior legacy, with kind of subjugation of Middle East, orientalism, and what is appropriate. And they said actually, "yeah, it's really good to be national institution like British Museum to have that space for our story to be told." And for non-muslin visitors, they just, what's you know about Hajj?

Zheng: I think for them, it's maybe because of curiosity.

David: yeah…kind of…

Zheng: because they are curious about the life, maybe their religions.

David: yeah, I think, someone is curious. Someone is maybe like a lot of people, are like "whoo, it's muslin exhibition, it's not for me"…

Zheng: yep…

David: and "I'm not muslin". So you have to kind of… like find hook, you have to sort of breakthrough that, and be like "ohh, no, this is what we gonna do, we…" you know, this is why, this is interesting. This is why you gonna finite with these people, because with muslin, because you know, there is a lot of crossover in terms of stories, about their faith.

12:21 Zheng: so about the big idea of this exhibition. Because I just want to know, I've got the case, and you just mentioned about this.so…

David: of course… sure… The big idea of the exhibition, is probably the er… "Hajj is basically a journey that all muslin, everybody of muslin have to take on their life time".

Zheng: yeah…

David: and the essence of the Hajj is of a quality of everyone being the same, given the charity. So there's positive elements there, associated with Islam. But you don't necessary to get polarity tablet price, and also the Hajj is something like weird and strange, but

something is actually very familiar to a lot of things, the non-muslin do. So cultures across, or cultures, you know, lots of cultures take spiritual journeys. And lots of stories that informed Hajj that rechills about the perfect Abraham, or Christians are familiar with old customs as well.

Zheng: so basically, you are like digging up the positive elements of the…

David: I think in this case, yes. Because you are trying, because the negative elements as Islam were told so frequently, by the price, or often skip in this way, and you are offering a different point of view, and that what is used to done, I think that was the best exhibition in museums, they show different perspective people are familiar with.

Zheng: Yeah…so let's moved

David: yes, sure.

14:07 Zheng: so what is the general idea of the redesign, you know, what I mean, like the curator just do the exhibition design, it's almost like redesign the whole space, and what do you think of that?

David: so when redesign, rather than doing the new building. You've got the space, and you go in, and you just move the objects around… and within those cases, that pretty much British Museum, you know with British Museum, the galleries were redone, you know, the building is the same.

Zheng: yeah…

David: You've already with the building build. You trying to have a new story, you trying to tell a new narrative. And often that's kind of a narrative maybe you've done the story twenty years ago, will be now out of dates. You've done the research, you want to put that forward, but also you want to tell the new…er… new stories, that you know, that in terms of where you politically what's relevant now. so, building on that idea of thinking about bring them a multicultural country, and about looking an interesting faith, so… when we did the medieval gallery, there's a big thing like in the past, medieval gallery had been, you know, very much about crusade, very much about western Europeans, going out of middle east, you know, this is it. But it didn't really present the Islam point of view about that great emperor. So, we were… that's how… that's what we kind of doing, and also showing of the conflict side of things. But also the different idea of passing trade between and in each

other. And I think, thinking about the Silk Road, that's a big kind of… that's similar thing with china.

Zheng: yeah…yeah… yeah… that's really true

David: in China, you know, the Islam world, and you know, the Chinese will going through the Han, and the Tang and Song, you know, you are having these interaction from these two great world emperors, the exchange of ideas and goods, you know, something like the blue and white boslen, where the blue comes from the cobalt in Iran, and the poshos made in Jindizang. And it ships all over the world. This global… you know, kind of the products, the first global products, kind of thing coming from this cooperation between these two emperors.

16:36 Zheng: because I learned the architecture, so I am interested in… about the space and narrative, and the relations between them… yeah… the reason why I choose to study Ashmolean Museum is because… I think there is… I think the space respond to the objects, not anywhere, but in somewhere, they have like a window in one side, and another window in other side, they can have a… maybe a dialogue between the objects in different areas. So this is the reason I choose that museum, but you said, maybe you think that the whole museum is like lack of the soul.

David: yeah, I think Ashmolean idea is really good. And if you look the British Museum is just about Islam gallery next to the medieval gallery, to put them in, like a conversation with each other. And you know, you can take that directly influence from Ashmolean gallery doing that, but I do think the in the redden play of the Ashmolean that is favour of the white, the kind of you know, the white cube, so I feel it's lost some of the wonder, the treasure, you know, you used to have the objection, but all the labels were handled by the curators. So it was you know, the idea of museum is getting lost, you know, you need to be navigating museum, and also I think museum being a land, it's nice thing to get lost. That's something I think museum need to retain, that sense of fun. And if you straight everything back, the whiteness, you know the hotel lobby, it become to clean. You know it's like yesterday, the debate about the urban design and the… and talk about the new villages is going to be redesign, and they put down everything, no one wants to live, they lost their soul. And that's important thing for museum to retain, the objects are not just the soul, is

not just the collections, it is the building, the sound of building as well.

19:42 Zheng: so, what do you think of the risk along the Silk Road?

David: the risk?

Zheng: yeah, the risk. Is there any risk about the B&R initiative if we want to build museum?

David: ahhh… about Belt and Road.

Zheng: yeah… you know what I mean, because along the Silk Road, there are a lot of countries, and with different culture background, and if we want to like er… out-going, and putting some museums there, what do you think of that?

David: I think…er… it is different time with China's history. While China has say, being very open, and other time for Chinese is very closed. So the Ming, you know, the Ming they have the voyages going outwards, but they also have the moments expelling foreigners, and Qing as well. While Qianlong emperor says…er… you know, you have nothing we want to bring, you know, how could we… you know, that's big part of Chinese narrative, that China close itself. As a results, get left behind by the rest of the world. So like that period, the openness in Tang period, is very exciting, culturally the idea of everybody come into China, and the idea of the trading goods. I think it's really like, I think it's really positive model when president Xi Jinping says…er… you know, we are trying to open, and we are guarantee the world. The history that's happen, that's a really good idea. So sorry, in terms of risk…

Zheng: yep

David: China guess has to be comfortable with er… what I say it's dialogical model, which is the equal level. You cannot just come out and say to people, oh,I am gonna redesign the museum, and how this is gonna be along the Silk Road, but you have to say, what do you want as well. And come to a conversation…

Zheng: like let them to speak out.

David: it is like with the ethnicity, yeah? You cannot just be the head of the people who have customs, that's fine. Those people also have their voice and be able to shape the thing, shape what's the museum looks like. And maybe that museum will not be what… you know…what China will want to be. Maybe that will be something critical in China. In someway, China looks for harmony, and for this, you have to open for a little bit of

disharmony, but that's OK. It's also kind of healthy thing.er… this is not the bad thing as well.

23:18 Zheng: could you just give some ideas about the future exhibition development?

David: along the Silk Roads?

Zheng: yep.

David: I think what's the amazing would be a kind of you could walk on the Silk Road, you could following with these footsteps, probably by a car or some transports, but you can go along these major sites, telling you about where the key points of interaction are, you can go along tracing, go to Dunhuang, and you know, how these kind of moments…these main point of culture things make the narrative, the kind of story. The land of Silk Road, or Silk Roads rather, you'll going through China, through you know, all that central Asia, Afghanistan, iran, into middle east, into Europe, has that full kind of extend, you can have Silk Road all the way through, connects to people. I think that point does Silk Road museum, does B&R museum in Europe. In Italy, you do a Marco polo museum, that will be amazing, that will be a full connection. And I think that it's not only about historical silk road, it's also about the contemporary silk road. What the connections, you know, there happening, what's the dialogue that exchange going out there. And what's the contemporary project you want to do?er… just make sure we won't running over. So China has a lot of good worker who is in Cuba, Africa for sustainable energy, you know, it's been about the environment, so how can that be reflected? How can these museum beyond just museums? The cultures, herbs, there is another good project call "other classical music", and it's about how music goes along the silk road, and into changes, and it bring like musicians together, and play their music and exchange, and that's the moment of exchange about…what happened between different things together.

Zheng: maybe because music has no boundary.

David: yeah…music, food and dance, all of these things not performing cultures as well as objects, not facts.

Zheng: OK, I have already got all the questions. So, thank for your time.

Xun, J

3. Interview with Xun in this interview.

Date: 23/06/2018

Location：reception hall

Total recording time 11:57

What is your opinion about exhibition design and space design?

Recorded on WAV format.

00:00 Zheng：Hello, Jing Yuan. If you're ready, can we get started?

Xun: OK. First question, right?

Zheng：Yes. What do you see as the relationship between architects and curators?

Xun：Uh, architects and curators, right? I think it's important to start with what kind of relationship architecture has with an exhibition. Then you can show that it's the relationship between the architect and the curator.

Zheng：No problem.

Xun：First of all, I don't think that a building has to be specifically adapted to an exhibition. Just like what Mr Guan said in his report yesterday, it is the impeccable interpretation that an architect actually doesn't need to adapt to a curator's actually. Because the life of a building is far more, or the use function of a building is far more than an exhibition's years, and its use of an internal and external extension. Because the building may not move for hundreds of years, but your exhibition, in terms of content, new discoveries and technology, must be constantly updated. So if a building is still so much in line with the original exhibition or the curator's concept, I mean the permanent exhibition, it is actually a not so good phenomenon. Because frankly speaking, the nature of some improvements or forms you want to make in the future will be a bit awkward. And the building has already been limited, and everything is so perfect as the original. If you change it again, you will feel a bit strange. For example, like our second tutor, the teacher from Nottingham, who talked about their museum moving from site A to site B before finally moving to its current location, have we ever thought about the buildings in site A and site B are doing now. I think the task of an architect who is doing a museum is not just to think about the museum at the moment, but more than that, to think about sustainable development. For me, a good

architect should design a museum building with a lot of variability and flexibility, which I know may be difficult to achieve. Still, I think that his space or concept must leave room for this kind of transformation. In fact, the reason why a curator can become a curator is that, apart from his comprehensive ability to create an innovative exhibition idea, what is more, important is how he co-ordinates and adapts to the many difficulties he faces, and then integrates all these limited resources into a maximum and best presentation of the exhibition. Hence, the exhibition is a good thing for the curator to deal with architectural constraints, and it is also a point to test his value.

Zheng：OK, I see.

Xun：I don't think the relationship between architects and curators is one of who adapts to another. But if you want to talk about it on that level. I think it's instead of the curator who has to adapt to your architect to some extent. Yes, so that's my view.

02:38 Zheng： OK. Let's move on. It's the concept of multiculturalism that everyone is talking about nowadays, so what do you think are the special needs of museum exhibitions in this regard?

Xun：Well, I think the problem with multiculturalism is that, first of all, your audience, I am positioning it to the general public. I am not positioning it to any special people. The general public is still most familiar with local culture. I hope that when you exhibit any multiculturalism, you will actually have to make a connection with local culture. And this connection is not so much about cultural exchange but about bringing the audience closer to a sense of experience. It will be easier to explain something unfamiliar with something familiar. In fact, to put it bluntly, I think that when it comes to this kind of exhibition, we may not divide it into so many halls, for example, like the British Museum, where I exhibit Egypt in this hall and China in that hall. Still, in fact, in some cases, we may open up some of the relationships between their cultures. I think this should be a more important aspect of the exhibition, as its narrative should be intercultural, not multicultural, which means culture A and culture B, but a cross-cultural relationship.

Zheng：And are there any similar cases like this in the exhibitions you have come across?

Xun：There is, but this is a bit difficult. For example, Taipei Museum is doing a more commercial exhibition. It is the Cartier jewellery exhibition, but then, if it is only the

exhibition of this, we will think it is beautiful. In order to make cultural contrast, it compared the accessories from the Qing Palace – the historical imperial jewellery, with its new jewellery design. It also asked the Imperial Palace in Shenyang to borrow some things to make a comparison. Another one is that before the Taipei National Palace did a Kangxi Emperor and Louis XIV, these two emperors his era is similar, and then is also a remarkable achievement. Then it put their two stories and life together to make a comparison, and this is more cross-cultural.

Zheng：Is this contrast a starker one, or is it the same or different?

Xun： It's all there. It's about two contemporaries, for example, I live in China, while you live in Europe. How we came to grow up together? or how... it's a story like that, and you find that they have some differences, but also a lot of commonalities, or commonalities of successful people or something like that. Anyway, there's this feeling that it will blend more closely.

05:16 Zheng：I won't ask you the next one, I think you've just answered how you see the secondary design of the museum.

Xun：Is it the exhibition design?

Zheng：Yes. In fact, after the architect has designed it, it's just a shell or a frame. However, the exhibition is recreating and reuse the space, right??

Xun：Yes.

Zheng：I think you may have just summed up the problem, which is that you don't think there's a need for anyone to fit in with anyone, or there's a comparison. Your view may be more skewed towards curators that need to adapt to the space …

Xun：If you can't even adapt to the space, then I think the meaning of curator is somewhat diminished.

06:00 Zheng：Good. Do you think that for different types of museums, such as this space, it needs to be adapted to the themes of different types of exhibitions?

Xun：I think there are two aspects to a space. For an exhibition, the first is that it is a place where things have to be put, and the second is that it is a place that creates a kind of atmosphere. These are two things, one is more rigid and objective, the other is more

subjective and emotional. The different types of museums you are talking about are divided into three categories: culture, history and art; nature and life; and science and technology. Firstly, they have different things on display - some are very large, or some are very small. The requirements are different for big or small exhibits, such as weight-bearing and so on. But if it's just jade or porcelain, I don't need a big room. There is also the overall atmosphere, for example, you enter a cultural, historical and artistic pavilion, you can not make it too futuristic. This space will make the audience feel too abstracted. Similarly, a science and technology museum should not be too poetic and picturesque. This kind of literary atmosphere is too heavy. It will feel out of place, and these are two different things.

07:20 Zheng: The last question, could you please talk about the trends in the relationship between museum architecture and exhibitions?

Xun: I think, because I don't know anything about architecture, but the exhibition is actually very fast. And the cycle time is short. That is, it's shorter than architecture. After all, it takes longer to complete a building than to complete an exhibition, from the conceptual design to the construction. So in that sense, exhibitions develop and are replaced more often than buildings. that's what I mean. So, um... the trend in exhibitions is towards variability and adaptability, and it's the same with architecture. It depends on which is more flexible, and that's definitely exhibitions.

Zheng: In fact, as you said earlier, different types of museums have different design requirements and different space needs. For example, when doing architecture, like the Ding Zhaozhong Museum that Guan Fei talked about yesterday, some of its exhibition halls are very large and are designed to display experimental instruments.

Xun: In fact, there is another point. I think that many museum buildings are actually quite well done and beautiful, and the architects have a concept, but the general audience is unaware of its concept, and no one talks about it.

Zheng: Yes, that's why I asked yesterday that sometimes the audience may look at the hilarity and ignore the main body of the exhibition. However, the audience may not be able to appreciate this point. They may just think that the architecture is fantastic, they may take photos, but the exhibition's central theme, the core of the exhibition, maybe weakened.

Xun: It can also compensate for this, for example, a very wonderful building, such as the

Guggenheim issue, right?

Zheng： Yes.

Xun： If it's a wonderful building with a great story, why can't it have a gallery in the museum to tell that story? I've been to the museum in Los Angeles before, and they have a special program in their guide on the architecture, on the whole and courtyard design. We have to follow that and then go back and listen to his collection, its art and sculpture, yes...and then go back and listen to that. I think it's quite good, actually. The architectural design itself can be interpreted and interpreted in a more general way. At least after his talk, I understood what he meant. Their models and drawings are an exhibition in itself. We are surrounded by these things every day, so why can't we go back to the basics and watch an exhibition?

Zheng：Yes, that makes a lot of sense. So that concludes our interview for today. I appreciate your cooperation.

Qi,W; Liu, H; Li, C; Chen,L; Wang,X; Peng;Q; Ji, W.

4. Interview with Qi, Liu, Li, Chen, Wang, Peng, Ji together.

Date: 24/06/2018

Location： dining hall

Total recording time 54:10

What is your opinion about exhibition design and space design?

Recorded on WAV format.

00:00 Zheng: Thank you all for coming together today to help me with an interview. The main purpose of this interview is to ask you to talk about the relationship between architecture, space and exhibition, and to share your ideas. I've just shown you the interview requestions, so if anyone has an idea. We'll take turns to talk about it.

Interviewees are discussing together…

03:13 Li: There is no way for me to be specific about this relationship between architectural space and exhibition, so let me start with my perceptions. The relationship between the architecture of museums and exhibitions is in fact the big question that has always existed between the field of architecture and its use. The question of whether to design the building

for its function or to fill it with things later is not a matter for the exhibition industry but the industry as a whole. And now, over the years, we can see that what is doing better in the country is the monumental subject, which has a certain exclusivity as an architect. Another one is the technology and nature category, which has a certain need for the height of the floor and so on. But then, the biggest problem we have in China now is that many exhibitions are not that the place is exclusively for exhibitions. For example, there is an archive or something, using a lot of old buildings, and that's hard to bear. The current situation is that the country's economy is growing. There are special funds and special allocations for everything, so the development of this situation is getting better and better, and the integration and matching between the two are getting better and better. For example, the Zhejiang Nature Museum is six pavilions. We can't say that it looks good or bad, we just say that it uses functionality, which meets all the needs and functions of the nature class exhibition. Before, many famous paintings have gone mouldy because of poor storage. So we don't have any conclusions, and we just think that it is now tending to develop in a good direction because the economic strength of the country is rising.

05:40 Liu: I think this is an interactional relationship, right? Just now, Mr Li said that this situation is related to the development of our national power now, before, the space of the museum space or shape must be based on the environment at that time.

Li：and the decision-maker.

Liu：The current situation is one of two things: one is a renovation - the idea of building a museum. If the funds are not sufficient, it reconstructs other buildings. For example, if there is an empty one here, we will turn it into a museum. Then the second situation is what Mr Li said, that we earmark the funds for this purpose. When there is a need for this, we will start the design of the outer building and then do the exhibition inside.

Li：The disconnection is profound。

Liu：Yes. I feel that in the industry, it's not we're going to do it only when the museum starts to do the exhibition publicly. It should be several companies should follow the progress. That's the state of affairs.

Li：The exhibition company has no discourse in the pre-intervention。

Liu：Yes. It is true that the dominance of the discourse is slightly less, but that depends on

the attitude of the owner. It means that some people may be more knowledgeable, and he will ask the exhibition company to assist the external architecture to do this design, especially when there is any demand for its exhibits in terms of space and floor height or special exhibition needs. I was impressed by the fact that when we were following a dinosaur museum in Shandong, which was building a new museum. A foreigner was hired to do the exterior architecture, but the exhibition company was involved in the design.
But the discourse is not so much in place, and there is no real titling. The opinion has no weight.

Li：This concept is now generally stronger in provincial or national museums.

09：30 Wang：The humanities or cultural category is fine. It has a specific cultural heritage and a certain knowledge of the operation of the museum itself。

Li：But the regional museums are a mixed bag.

Liu: This is dependent on the customer level. Why humanities? Humanities were developed a little earlier. Then when there was no platform for building museums, each one shared a small piece of cake. But now, there is this platform, especially for the museum. There is a better understanding of the exhibition companies。

Li： There's one thing, in particular, I think you should go and see Han, the director of the Capital Museum, when you have the chance. He said a few problems after the completion of the exhibition, such as the building's negative pressure. After the second design of the building, it is still a problem of the building. The building found too much natural light and built a core cylinder inside, forming a zigzag building.

Chen：It is three buildings – an office level at the back, a general history on the left and a boutique hall. The three buildings are particularly isolated, a square and a concordance, and then an outer skin is made on the outside to give it a cover.

Ji：Let me talk about the first issue, the relationship between architecture and exhibition. For example, Dr Wang Qi, you see he did the dinosaur exhibition in these years, and he seems to be more and more like a curator. His point of interest is a, and I think this thing is connected. First of all, you study architecture. The examination of architecture is to test the sketch. We study design is more, and there is colour what the examination. He crossed the border through architecture and went into curating, and I was a design student. But let me

give you an example from 2008 - the Wenchuan earthquake was not one of the four pavilions. One of them was an earthquake pavilion in Hanwang. We went to tender for this pavilion at the time. The owner didn't have much money at the time, and it was all aid construction. He used a collapsed shop as the original site and did not hire an architect. I took advantage of the terrain, it was a one-storey building, and I could not do anything with it. Behind it happens to be Longmen Mountain, which has an undulation. Plus, an iconic clock tower, a bit of a mountain extrusion was done. It also ended up being the equivalent of doing the architectural design for free, and it came out well. Architects have similarities with exhibition designers in terms of art fundamentals, space and so on, so these two areas are becoming increasingly integrated. This is a trend. There is one more thing that we have all been talking about - why the order of architecture and curatorship in China spans a wide range of priorities. In fact, this depends on the consciousness of the owners. It is only in national and provincial projects that the owner is aware of the need for a curator because someone else has told him that. Himself felt that I should have an awesome house first, and when someone told him that he should do that, he might just draw the curation in. In most cases, the museum has to be considered first as three or five galleries. The architect drew a big plan and built the museum first. So, I'm optimistic that there's probably only a 20-25% chance that the curatorial work in China will make it to the architectural design stage first. Without a bid, we have no discourse.

Li：What is the most symbolic issue in this that you are talking about? First of all, the curatorial profession is a vague concept in itself. Many of our curators are either done by our copywriters or by interior designers.

16：10 Liu：The planning role has actually become more and more critical over the years. I remember when I first started working in this job, the company must have been small too. Basically, there was no such position as a planner. Designers don't know anything about palaeontology, so what they know is superficial. We all just looked up what this dragon looked like on Wikipedia, and it was all in this state. There is no such thing as a theme, as the teacher said, and then how to divide the framework. It must be the expert who writes the outline first. It's like that expert is the curator. He writes out the outline of one/secondary/third level, and basically, the curator is his position. Then we get this outline

and then do it. Now this position of planning in exhibition companies has slowly come up. It's about having a combination of the expert's ideas and our ideas and then presenting things. There used to be circulation, but certainly not in such a logical and detailed way because exhibition companies had not developed to this extent.

Chunhui Zheng：Let me ask a question along with the circulation. It is impossible not to take into account the flow of people when making a museum building. We will certainly consider the entrance and exit of visitors, such as from the top floor or the ground floor. But when we think of this factor, it already means that browsing logic has been limited. The exhibition company make the internal exhibition, then how to consider this flow line?

Liu：The actual change is to be made. There are two ways to do this: one is to follow the original layout of the entrance, and the other is to make changes.

Peng： The Tangshan Planning Museum was done again, which reused the original building. More buildings have been rebuilt like this, adding many lifts, vertical lifts and escalators.

Liu：Take the shopping mall, for example, the investment did not recruit well – gave a vacant. The board leaders decided this place will build a museum; some museums do not have enough investment to build a new one, it will select an existed building. This situation is quite common. For example, we recently made a smart exhibition pavilion. It was built on the fifth floor of an official building. The floor height is certainly not appropriate for the exhibition. Also, it did not consider the visitor's circulation. We cannot do this.

Peng: There are two aspects of your question. Firstly, for example, if we take the mobile phones as exaples – Apple and Android. Apple is the equivalent of integrated design, right? From hardware to software, everything is created by one company, which is the ideal of many designers. However, this is very difficult, and only Apple can do this job. The architect, if he designs a building, a landscape, even the door by himself, his work is the particularly high degree of completion. He may finish it in many years, which the owner cannot wait. So most of the projects like Android combined different companies. I think it's rare to do the design from the beginning to the end. Even if such an opportunity came up, it's not something that each company can do. It isn't easy to be able to do the architecture, the exhibition at the same time. But from another point, we still hope that such people can lead us to do such things. Secondly, it relates to dimensionality. To be honest,

we are all exhibition designers, which are interior design, environmental art or product design. The architect is the first. Architects always have a higher dimensionality, and they can do everything. The director Zhang Yimou is not a director of events, and he is just a film director. So why can he do the opening and closing ceremonies of the Olympic Games? That is because he is high dimensional. He can do it easily from top to bottom. From my point of view, it is challenging to get the approval of the client. People will think that you are just making space. Can you design a building? There are very few opportunities for us to participate in the museum building design process unless you have a higher dimension and significant influence. For example, professor Ding Zhaozhong can lead his memorial museum.

Liu：I think this case is already detailed. It gets its idea from the particle, and people don't know what it looks like. It's spinning. Is it too figurative?

23：41 Peng: The thing is, there are a lot of things that everyone sees differently. But the point is that in the end, to put it bluntly, everything we do must be based around the one who can lead. Or you can be completely democratic and the public can choose. But there are very few opportunities for the public to choose. Like the Water Cube, or whatever, you let people choose.

Liu：No, you cannot leave it to the public. Then 80% will choose a cool building without thinking the function…

Li: I will summarise some of my actual experience, plus the previous in other companies, which nearly a hundred. The most major problem is that it serves the youth of this function in the domestic do particularly poor, really is particularly poor.

Peng: Let me summarise. I think there are two relationships between architectural design and exhibition design. One is the relationship between childhood friends, like falling in love and knowing each other from childhood. The second is the relationship of love at first sight, and I think both relationships are possible. But the first kind of relationship is very rare. The type is designed to be integrated, which everyone wants to do. But it is too difficult to do. Therefore, most of them are just halfway houses, and this is also the case for all our projects. For example, which office building is set aside for a showroom, in fact, this place is really not suitable for a showroom at all, but you can't say this thing, if you don't do it,

someone else will do it.

Liu：It's true that ideally, we're just childhood friends. But in reality, it's just a matter of heaven and earth and people touching each other and then thinking we are proper, so we just get by, heh heh heh.

25：48… the afternoon class began, and the interview ends

Adam, S

5. Interview with Adam in this interview

Date: 04/07/2018

Location：Wollaton Hall, Adam's office

Total recording time 39:43

Recorded on WAV format.

00:00 Adam: It's been a year since "Dinosaurs of China" (the exhibition hold in Nottingham in 2017) already. Scary! how time flies!

Zheng: Yeah. I have send you the questions before, and yes, this is the same one. So I will ask them one by one, so we just talk about your opinion, OK?

Adam: En…yeah…

Zheng: OK, Adam. The first one is what do you think of the relations between architectural design and exhibition design in museums. And I think… like… it's similar with the curators and architects.

Adam: Hmm… er… I think it is important, but often overlooked. I think it is overlooked by curators who overlook the architecture, and I think sometimes it may overlook by designer, who overlook the curatorial things. So I think there is a bias, from one side to the other. And I think it works both ways. I think the importance vary depends on the building, depends on the nature of the building and the nature of the design project, the gallery project. So, the special relevance to Wollaton Hall, I think the architecture is incredibly important because the architecture is one of the key identities of the building. So when it comes to interpreting objects, galleries in the building, we really have to be respectful, for the building and the architecture. And also, we are great building, so we not only have to respect from design perspective, we also have to respect physically. We cannot knock down

walls with hammer, we cannot do anything we want. It is something really important, especially Wollaton Hall. But it is something can often be overlooked.

Zheng: but the situation is very different in China, you know, because we didn't have many historical buildings used for the museums. We always build the new buildings for the museums, so the relations between architects and curators is a new concept.

Adam: In that case, the curator can fit in potentially into the design process from the beginning. Here we really just working with the shell it's already been built. Whereas in China, I suppose you can… the two can work alongside each other right from the very beginning, and I think that the two elements have potential to complement each other, so the building can complement with the objects, and the objects can complement with architecture.

02:45 Zheng: Yeah, you're right. So let's move to the next one. Within the multicultural environment, so what do you think of the key points or characteristics of the museum narrative, or the storytelling in the museum?

Adam: Hmm… I think… my depend on what the narrative it is, so we are talking it specifically about natural history narrative, or more broadly, could be any narrative?

Zheng: OK, I think you are familiar with the natural history, so you may focus…

Adam: So we focus on that… well… I think it is possible for the architecture to be part of the interpretation. So the aspects of the building, it may or may not fit nicely within the existing narrative. So to give the example from the "Dinosaurs of China", we talked about the building, and the building stone that is constructed, was Jurassic rock. So we can interpret the architecture in the building in a contacts, and make sense for the narrative. So I think there is a possibility to do that.

Zheng: so I know that, in the UK. A lot of scholars do the research about the museum and multiculturalism, you know, during 1980s. So what do you think about that? Is it relating to the social requirements of that period?

Adam: Er… I don't really know, I don't know what to say.

Zheng: Because there is a lot immigration in UK, you know, so like Leicester, they built a lot of museums to make the society more stable.

Adam: Well, I think you can cooperate with elements of design from those immigrations

from their origin countries. But again, that is something, there are a lot of museum buildings, built from scratch in the UK, so I don't know that is something happening really, not in reality, not happening in my concept. But this is a way to make all of cultures accessible, feel like their culture is represented in a heritage, a local heritage. Because that is what museum about in the end of the day--- share heritage. Yeah, that should be accessible to everybody from every culture.

05:45 Zheng: Thanks a lot for your time. That's all.

(Adam then moves on to the transformation program of Wollaton Hall.)

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Visitor's Survey of Mary Rose Museum

Title of Study: visitors accessibilities to the narrative context

Name of Researcher: Chunhui Zheng; chunhui.zheng@nottingham.ac.uk

Participant consent and research ethics statement

*This survey is part of a doctoral research project that has gained ethics approval from **the University of Nottingham**. Your responses will remain **completely anonymous**, and the analysed age groups are limited to **adult visitors over 18 years old only.** More details of the study are given in **the Participant Information Sheet** provided by the researcher. Thank you for agreeing to participate in this research. The survey may take **approximately 5 minutes to complete 9 questions on both sides of the paper**. Remember your participation in this study is **completely voluntary** and you may withdraw at any stage.*

1. Please select your age group (years):

A. 18-29
B. 30-49
C. 50-64
D. ⩾65
E. Prefer not to say

2. How important are the following factors during your visiting the museum?

factors	Important	Neutral	Not important
Interior atmosphere			
Sequence of visiting			
Understandable exhibition			
Resting places			

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3. Are you attracted to Mary Rose Museum?

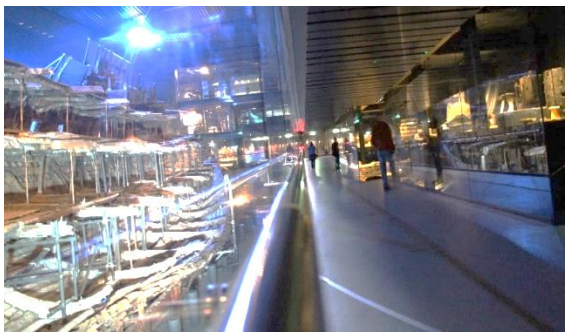
A. Yes
B. No
C. I'm not sure.
D. Prefer not to say

4. Did you follow the sign of "Visitor Route" shown in the museum?



A. Yes
B. No
C. I'm not sure

5. Did you notice the exhibits in the showcases of each deck were mirrored with each layer of the ship hull?



A. Yes
B. No
C. I'm not sure

6. If yes, how does this mirror-image corresponding help you to understand the exhibition? (Multi-choices)

A. It allowed me to immerse myself in the historical narrative.
B. It helps me understand the stories of the men on the deck.
C. It shows the original location of each object on the deck.
D. I'm not sure.
E. Others.please describe_____

7. During your visit, how did you feel about the environment? (Multi-choices)

A. I feel like I am under the sea.
B. I feel like I am walking inside a "ship".
C. I feel uncomfortable in the dark.
D. I'm not sure.
E. Others. Please describe_____

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8. To what extent are you interested in the following parts of the Mary Rose Museum?

	Impressive	Neutral	Not impressive
History of the Mary Rose			
Science and diver of the ship			
Building and interior environment			
The main decks			
Men of main decks			
The lower decks			
Men of lower decks			
The upper decks			
Men of upper decks			
Hands-on activities			

9. How would you describe the look of the museum building?

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Data collections and statistics

What is your age?	Interior atmosphere	Sequence of visiting	Understandable exhibition	Resting places
≥65	Important	Important	Important	Important
50-64	Important	Important	Important	Not important
18-29	Important	Important	Important	Neutral
18-29	Neutral	Neutral	Neutral	Neutral
18-29	Important	Neutral	Important	Important
18-29	Neutral	Important	Important	Neutral
18-29	Important	Important	Important	Neutral
18-29	Important	Neutral	Neutral	Important
30-49	Important	Important	Important	Neutral
30-49	Important	Neutral	Important	Important
30-49	Important	Important	Important	Not important
30-49	Important	Important	Important	Neutral
30-49	Important	Important	Important	Important
30-49	Neutral	Neutral	Important	Not important
30-49	Neutral	Neutral	Important	Neutral
30-49	Important	Neutral	Important	Neutral
30-49	Neutral	Neutral	Not important	Neutral
30-49	Important	Important	Important	Not important
30-49	Important	Neutral	Important	Important
30-49	Important	Neutral	Important	Neutral
30-49	Important	Important	Important	Neutral
30-49	Important	Important	Important	Not important
30-49	Not important	Not important	Important	Important
30-49	Important	Important	Important	Not important
30-49	Important	Important	Important	Neutral
30-49	Important	Important	Important	Not important
30-49	Important	Important	Important	Neutral
50-64	Important	Neutral	Important	Important
50-64	Neutral	Important	Important	Neutral
50-64	Important	Important	Important	Neutral
50-64	Important	Neutral	Important	Neutral
50-64	Neutral	Important	Important	Neutral
50-64	Important	Neutral	Important	Not important
50-64	Important	Important	Important	Important
50-64	Important	Important	Important	Important
50-64	Important	Important	Important	Neutral
50-64	Important	Important	Important	Not important
50-64	Important	Neutral	Important	Neutral
50-64	Important	Neutral	Important	Not important
50-64	Important	Neutral	Neutral	Not important
50-64	Important	Neutral	Important	Neutral
50-64	Important	Important	Important	Not important

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50-64	Important	Neutral	Important	Neutral
50-64	Important	Neutral	Important	Neutral
≥65	Important	Important	Important	Neutral
≥65	Important	Important	Important	Neutral
≥65	Neutral	Important	Important	Neutral
≥65	Important	Important	Important	Neutral
≥65	Important	Important	Important	Important
≥65	Important	Important	Important	Important
≥65	Important	Important	Important	Neutral
≥65	Neutral	Neutral	Important	Important
18-29	Important	Important	Important	Neutral
18-29	Important	Important	Important	Neutral
18-29	Neutral	Important	Important	Neutral
18-29	Important	Neutral	Important	Neutral
18-29	Important	Neutral	Important	Not important
18-29	Important	Important	Important	Neutral
18-29	Neutral	Neutral	Neutral	Neutral
18-29	Neutral	Important	Important	Neutral
18-29	Important	Not important	Important	Neutral
30-49	Important	Important	Important	Neutral
30-49	Important	Neutral	Important	Not important
30-49	Important	Important	Important	Neutral
30-49	Important	Important	Important	Neutral
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30-49	Important	Important	Important	Neutral
30-49	Neutral	Important	Important	Important
30-49	Important	Important	Important	Neutral
30-49	Neutral	Important	Important	Important
30-49	Neutral	Important	Important	Neutral
30-49	Important	Neutral	Important	Neutral
30-49	Important	Important	Important	Important
30-49	Important	Important	Important	Neutral
30-49	Important	Important	Important	Important
50-64	Neutral	Neutral	Important	Important
50-64	Important	Neutral	Important	Neutral
50-64	Important	Neutral	Important	Not important
50-64	Neutral	Neutral	Important	Important
50-64	Important	Neutral	Important	Not important
50-64	Important	Neutral	Important	Important
50-64	Important	Neutral	Important	Important
50-64	Important	Important	Important	Important
50-64	Important	Important	Important	Important
50-64	Important	Important	Important	Important
50-64	Important	Important	Important	Neutral
50-64	Neutral	Neutral	Neutral	Neutral

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≥65	Important	Important	Important	Not important
≥65	Not important	Important	Important	Neutral
≥65	Important	Neutral	Important	Neutral
≥65	Neutral	Neutral	Important	Important
≥65	Neutral	Important	Important	Neutral
≥65	Neutral	Important	Important	Neutral
≥65	Important	Important	Important	Important
18-29	Important	Neutral	Important	Not important
18-29	Neutral	Neutral	Important	Important
18-29	Important	Important	Important	Neutral
18-29	Important	Neutral	Important	Neutral
18-29	Important	Neutral	Important	Neutral

Are you attracted to Mary Rose Museum?	How would you describe the building of the museum to others?	Did you follow the sign of "visitor route" shown in the museum?	The lower decks
Yes	Ship	Yes	Impressive
Yes	I wouldn't	Yes	Impressive
Yes	Very well laid out.	Yes	Impressive
Prefer not to say	Misleading from outside, but great indoor.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Different/Unique - Oval/slate/roundish.	I'm not sure	Impressive
Yes	Fairly roundish - boat inside.	Yes	Impressive
Yes	Realistic.	Yes	Netural
Yes	Unusual but very impressive.	Yes	Impressive
Yes	Fluid.	Yes	Impressive
Yes	It flows nicely.	Yes	Impressive
I'm not sure	Dark.	Yes	Impressive
Yes	Brilliant and delicated design.	I'm not sure	Impressive
Yes	Easy to understand.	Yes	Impressive
Yes	Boat shaped.	Yes	Netural
Yes	Don't know.	Yes	Impressive
Yes	Dome.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	oval.	Yes	Netural
Yes	Tour of ship.	I'm not sure	Impressive
Yes	Resembles a ship	Yes	Impressive

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Yes	Like a boat, black+oval.	Yes	Impressive
Yes	Very well laid out.	Yes	Impressive
Yes	Shaped like a ship.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Well designed-like the boat	Yes	Impressive
Yes	Oval/Boat-like	Yes	Impressive
Yes	Well designed and interesting.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Large oblong.	Yes	Impressive
Yes	Large oval.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Ship.	Yes	Impressive
Yes	Modern.	Yes	Impressive
Yes	Modern.	Yes	Impressive
Yes	Really interesting and curious.	Yes	Impressive
Yes	A large bowl.	Yes	Impressive
Yes	Ship like.	No	Netural
No	Circular.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Like a ship design.	Yes	Impressive
Yes	Great layout, especially to view th ship from different heights.	Yes	Impressive
Yes	Don't know.	No	Not impressive
No	Don't know.	No	Not impressive
Yes	Not sure.	Yes	Netural
Yes	Novel.	Yes	Impressive
Yes	Fascinating sequectial storytelling of past.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Don't know.	I'm not sure	Impressive
Yes	oval	Yes	Impressive
Yes	the shape of the boat.	Yes	Impressive
Yes	Rectangle.	No	Netural
Yes	Looks loke an oyster.	No	Netural
Yes	Amazing! I was very impressed.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	It small but very nice.	Yes	Netural
Yes	I would say it is like you are walking on the levels of the ship. It is shaped like you are on board.	Yes	Impressive
Yes	Like walk though the deck of the ship.	Yes	Netural
Yes	Don't know.	Yes	Impressive
Yes	Don't know.	Yes	Impressive

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Yes	layered & flowing.	Yes	Impressive
Yes	Very well designed, brought history to life.	Yes	Impressive
Yes	great show, themes and layout. Flow and story, well layed out.	Yes	Impressive
Yes	3 tiered like the ship.	Yes	Netural
Yes	Very easy to follow, bit different, very aesthetic.	Yes	Impressive
Yes	shaped around, the boat, circular.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	3 levels.	Yes	Impressive
Yes	Round	Yes	Netural
Yes	Oval	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Don't know.	Yes	Impressive
Yes	Inspired, like a ship.	Yes	Netural
Yes	Oval	Yes	Impressive
Yes	Flying saucer like	Yes	Impressive
Yes	Modern, well ordered.	Yes	Netural
Yes	Black shell shape Dome.	Yes	Netural
Yes	aircraft hangar	Yes	Impressive
Yes	Like a ship's hull.	Yes	Impressive
Yes	Incredible	Yes	Impressive
Yes	very good. interesting in different levels/rooms	Yes	Impressive
Yes	Linear	Yes	Impressive
Yes	It is shaped like a ship as you tour around. It is very interesting.	Yes	Impressive
Yes	the shape of the ship	Yes	Impressive
I'm not sure	Good.	Yes	Impressive
Yes	Multi-level, linear	Yes	Impressive
Yes	Shaped like the "rose"	I'm not sure	Impressive
Yes	Creative	No	Impressive
Yes	Oval	Yes	Impressive
Yes	ship shaped.	I'm not sure	Impressive
Yes	Don't know.	Yes	Impressive
Yes	multi-story+circular	Yes	Netural
Yes	Like a boat	Yes	Impressive
Yes	A mixture of a boat and a large house.	Yes	Netural
Yes	like the shape of the boat	Yes	Impressive
Yes	Similar to the original boat	Yes	Impressive
Yes	Don't know	Yes	Impressive

Did you notice the exhibits in the glass case on each floor	If yes, how does this mirror-image corresponding help you to understand the exhibition?

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were mirrored with each deck of the ship?	
Yes	It took me back to the ship of Mary Rose vividly.;It helps me understand the stories of the crew members .;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
No	
No	
Yes	It showed the original location of each object on the deck.;
Yes	All of above. interesting to compare with modern day.;It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;
Yes	It helps me understand the stories of the crew members.;
No	
Yes	It helps me understand the stories of the crew members.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	More atmospheric, greater drama, sense of discovery. ;It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;
Yes	It allowed me to immerse myself in the historial narrative.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;

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Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;
Yes	It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;
Yes	It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
I'm not sure	
Yes	Showed the width of the ship.;It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
No	
Yes	Gave a sense of shape+size.;It allowed me to immerse myself in the historial narrative.;It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;
Yes	It allowed me to immerse myself in the historial narrative.;
Yes	It allowed me to immerse myself in the historial narrative.;
No	
Yes	It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;
Yes	It allowed me to immerse myself in the historial narrative.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	visually amenable + interesting;It allowed me to immerse myself in the historial narrative.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;

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Yes	It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
No	
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;
Yes	It helps me understand the stories of the crew members.;
Yes	It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It gave insight, greater meaning to each area.;It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It helps me understand the stories of the crew members.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;

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Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;
Yes	It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;
Yes	It allowed me to immerse myself in the historial narrative.;
Yes	It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	Added realism;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It helps me understand the stories of the crew members.;It showed the original location of each object on the deck.;
No	
Yes	It showed the original location of each object on the deck.;
Yes	It allowed me to immerse myself in the historial narrative.;It showed the original location of each object on the deck.;
Yes	I'm not sure.;
Yes	It showed the original location of each object on the deck.;
No	

During your visit, how do you feel about the environment?
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I'm not sure;
I feel like I'm walking inside a "ship".;
Bit different. I can see they tried to make it feel like onboard I think.;
I feel like I'm under the sea.;
I feel like I'm walking inside a "ship".;I feel uncomfortable in the dark.;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;

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I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I'm not sure;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
Walking back in history.;
I feel like I'm walking inside a "ship".;
I feel like I'm under the sea.;
I feel like I'm under the sea.;I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
Atmospheric;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
Difficult to see due to low lighty.;I feel like I'm walking inside a "ship".;
I feel uncomfortable in the dark.;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
Led to an understanding of how the ship worked. ;
I feel like I'm walking inside a "ship".;
Pleasant and relaxing.;
I feel like I'm walking inside a "ship".;
I feel like I'm under the sea.;I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm under the sea.;
I feel like I'm under the sea.;I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm under the sea.;I feel like I'm walking inside a "ship".;
I'm not sure;

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I'm not sure;
I feel like I'm walking inside a "ship".;
I feel like I'm under the sea.;I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
Felt like I was swaying on ship;I feel like I'm walking inside a "ship".;
enjoyable.;
I feel like I'm walking inside a "ship".;
like being in museum;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
curious.;
Felt like I had vertigo at times, and a sense of movement like being at sea. ;
The sloping walkways were especially evocative!;I feel like I'm under the sea.;I feel like I'm walking inside a "ship".;
I'm not sure;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm under the sea.;
I feel like I'm walking inside a "ship".;
Gives you a good understanding how the crew lived on board;I feel like I'm under the sea.;I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I'm not sure;
I feel like I'm walking inside a "ship".;
quite atmospheric;I feel like I'm walking inside a "ship".;
I felt like a close observer of actual history.;
I feel like I'm walking inside a "ship".;
I feel like I'm under the sea.;I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I'm not sure;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;
I feel like I'm walking inside a "ship".;

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History of the ship	The main decks	Men of the main decks	Men of the lower decks	The upper decks
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Netural	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Netural	Netural	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Netural	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Netural	Netural	Netural	Netural	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Netural	Netural	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Not impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Netural	Netural	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Netural	Impressive	Netural	Impressive	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Netural	Netural	Netural
Impressive	Impressive	Netural	Impressive	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive

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Impressive	Impressive	Netural	Not impressive	Impressive
Not impressive	Not impressive	Impressive	Impressive	Not impressive
Impressive	Netural	Netural	Netural	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Netural	Netural	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Netural	Netural	Impressive
Impressive	Netural	Netural	Netural	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Impressive	Impressive	Impressive
Netural	Netural	Netural	Netural	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Netural	Netural	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Impressive	Impressive	Netural
Netural	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Netural	Netural	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Not impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Netural	Netural	Impressive
Impressive	Netural	Impressive	Netural	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Netural	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive

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Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Netural	Not impressive	Impressive
Impressive	Netural	Impressive	Netural	Netural
Impressive	Netural	Netural	Impressive	Netural
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive	Impressive

Men of the upper decks	Discovery and research of Mary Rose	The building and interior environment	Hands on activities
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Netural	Impressive
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Netural	Impressive
Netural	Impressive	Netural	Netural
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive
Netural	Impressive	Netural	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Not impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Not impressive
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Netural	Impressive	Impressive
Impressive	Impressive	Netural	Netural
Impressive	Impressive	Impressive	Netural

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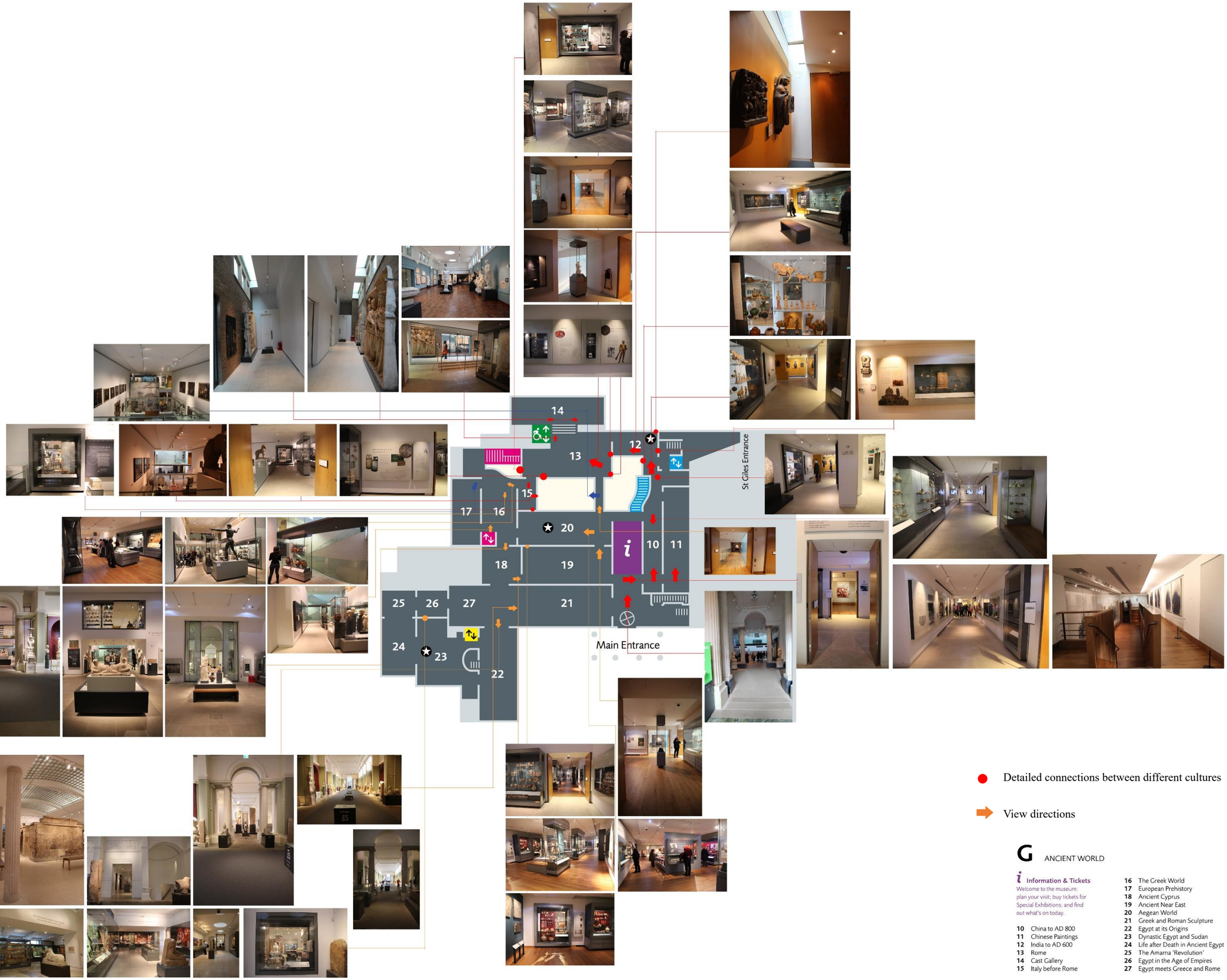
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Impressive	Netural	Impressive	Netural
Netural	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Impressive
Netural	Impressive	Impressive	Impressive
Impressive	Netural	Impressive	Netural
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Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Not impressive
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Not impressive	Impressive	Impressive	Netural
Impressive	Not impressive	Not impressive	Not impressive
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Netural	Netural	Netural	Netural
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Impressive	Impressive	Netural	Netural
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Netural	Impressive	Netural	Impressive
Impressive	Impressive	Impressive	Netural

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Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Netural
Netural	Impressive	Netural	Netural
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Netural	Impressive	Impressive	Netural
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Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Netural	Netural
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Impressive
Impressive	Impressive	Netural	Impressive
Impressive	Impressive	Netural	Netural
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Not impressive
Impressive	Impressive	Netural	Impressive
Impressive	Netural	Impressive	Netural
Impressive	Impressive	Netural	Netural
Impressive	Impressive	Impressive	Netural
Impressive	Impressive	Impressive	Netural



● Detailed connections between different cultures

➡ View directions

G ANCIENT WORLD

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12 India to AD 600
13 Rome
14 Cast Gallery
15 Italy before Rome
16 The Greek World
17 European Prehistory
18 Ancient Cyprus
19 Ancient Near East
20 Aegean World
21 Greek and Roman Sculpture
22 Egypt at its Origins
23 Dynastic Egypt and Sudan
24 Life after Death in Ancient Egypt
25 The Amarna 'Revolution'
26 Egypt in the Age of Empires
27 Egypt meets Greece and Rome

1 ASIAN CROSSROADS

28 Asian Crossroads Orientation Gallery
29 Eastern Art Paintings
30 Mediterranean World
31 Islamic Middle East
32 India from AD 600
33 Mughal India
34 Medieval Cyprus

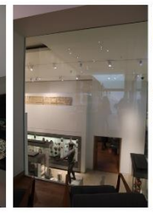
Eastern Art Study Room (Jameel Centre)
All enquiries to Information Desk *i*





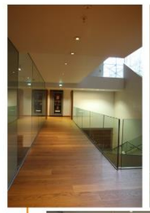
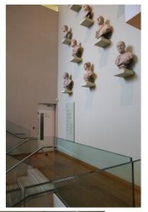
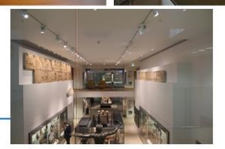






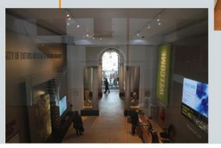
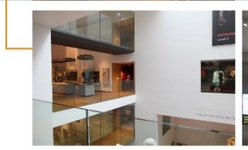




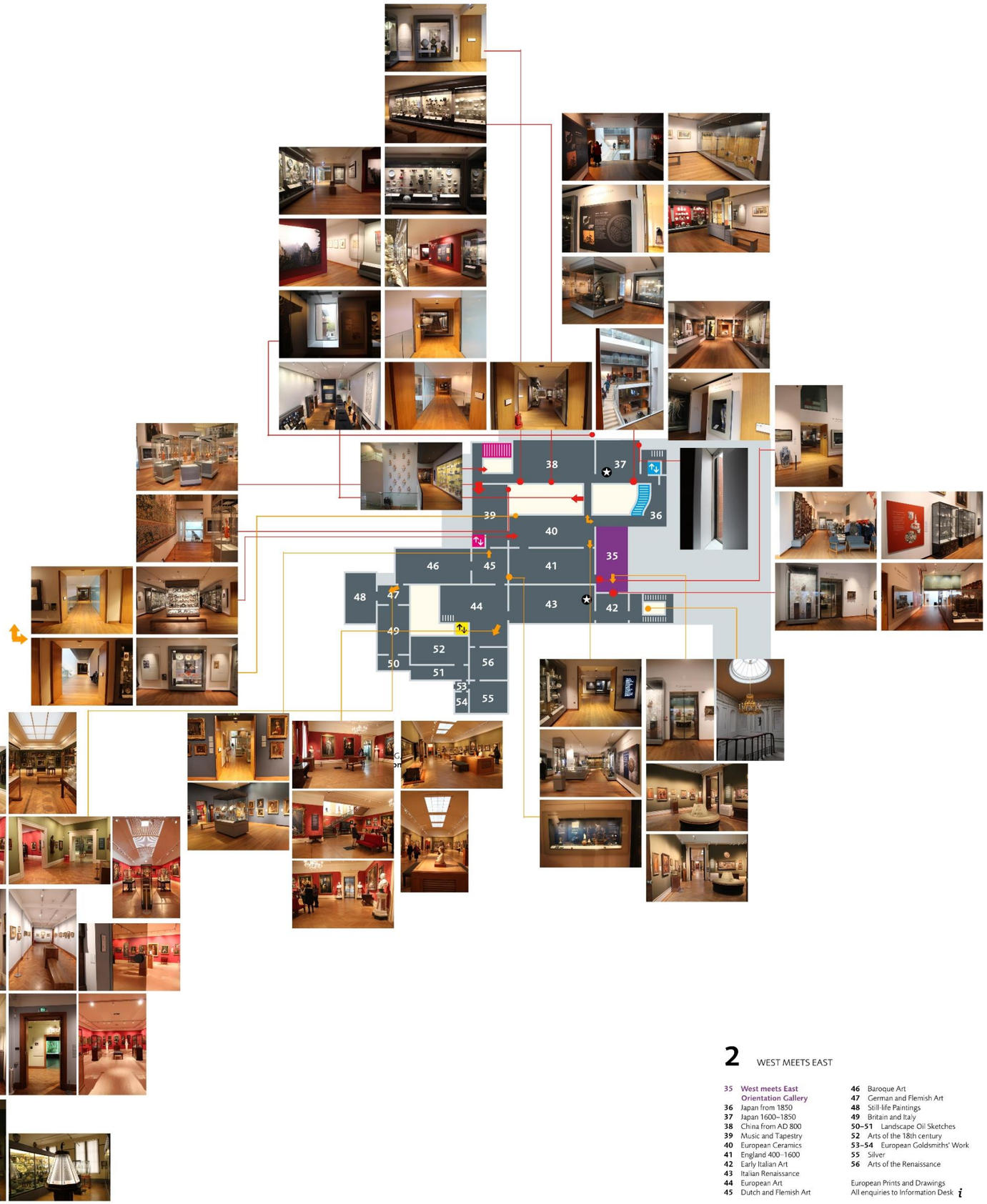










2 WEST MEETS EAST

35 **West meets East Orientation Gallery**
36 Japan from 1850
37 Japan 1600–1850
38 China from AD 800
39 Music and Tapestry
40 European Ceramics
41 England 400–1600
42 Early Italian Art
43 Italian Renaissance
44 European Art
45 Dutch and Flemish Art
46 Baroque Art
47 German and Flemish Art
48 Still-life Paintings
49 Britain and Italy
50–51 Landscape Oil Sketches
52 Arts of the 18th century
53–54 European Goldsmiths' Work
55 Silver
56 Arts of the Renaissance

European Prints and Drawings
All enquiries to Information Desk *i*

3M

EUROPEAN ART
1800–PRESENT DAY

Access only via:

62 Modern Art
63 Sickert and his Contemporaries
64 De Morgan Ceramics
65 Pissarro
66 Pre-Raphaelites
67 19th-century Art

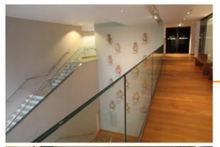
3

MEMBERS GET IN FREE

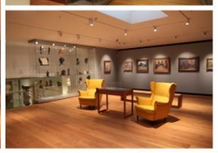
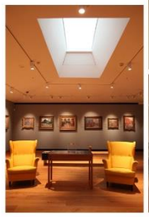
SAINSBURY SPECIAL
EXHIBITIONS GALLERIES

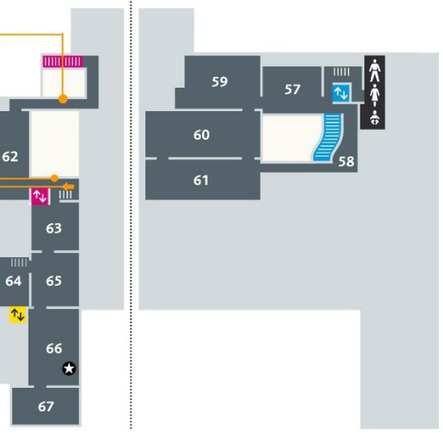
Access only via:

57–61 A changing programme of major international exhibitions. See our What's On guide for details and how to book tickets.







Lift to all floors **except** 4

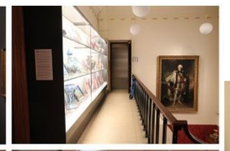
Stairs to all floors **except** 4

Lift to all floors **except** 3M

Stairs to all floors **except** 3M











-1 EXPLORING THE PAST

1 Exploring the Past
Orientation Gallery
2 The Ashmolean Story
3–4 Conservation
5 Textiles
6 Reading and Writing
7 Money
8 Gallery Eight

Café
Cloakroom Lockers
Education Centre
Lecture Theatre
Shop

SHOPPING

Find mementos of your visit and unique gifts inspired by the collections in the Ashmolean Shop.
www.ashmolean.org/shop
Open: Daily 10am–5pm

ASHMOLEAN CAFE

Take a break from it all in the cosy setting of the vaulted café.
www.ashmolean.org/café
Open: Daily 10am–4.30pm



Lift to all floors **except** 4

Stairs to all floors **except** 4

Lift to all floors **except** 3M

Stairs to all floors **except** 3M

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Visitor's Survey of Ashmolean Museum

Title of Study: Visitors' accessibilities to the narrative context
Name of Researcher: Chunhui Zheng; chunhui.zheng@nottingham.ac.uk

Participant consent and research ethics statement

This survey is part of a doctoral research project that has gained ethics approval from the University of Nottingham. Your responses will remain completely anonymous. More details of the study are given in the Participant Information Sheet provided by the researcher. Thank you for agreeing to participate in this research. The survey will take approximately 5-10 minutes to complete. Remember your participation in this study is completely voluntary and you may withdraw at any stage.

Please turn the page to start the survey ⟶

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First part: In this part, the four questions are about your general background; personal information will be kept confidential and anonymous.

1. Please select your age group (years):

A. Under 18
B. 18-29
C. 30-49
D. 50-64
E. ⩾65
F. Prefer not to say

2. Please select your gender

A. Male
B. Female
C. Prefer not to say

3. Please select the level of education

A. High school or lower
B. Some college
C. Bachelor's degree
D. Postgraduate degree or higher
E. Prefer not to say

4. Please enter the belief you currently identify with

A. Christianity
B. Islam
C. Judaism
D. Hinduism
E. Buddhism
F. Other (please specify) _____
G. None
H. Prefer not to say

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Second part: In this part, there are six questions. Some questions may have multiple choices.

5. How important are the following factors that will affect your decision when you visiting the museum?

factors	Very important	Somewhat important	Not important
Interior atmosphere			
Sequence of visiting			
Understandable exhibition			
Resting places			
Other (please specify)			

6. Is this your first visit to the Ashmolean Museum?

A. YES
B. NO

7. What was the purpose of your visit?

A. Relax and happy time with family
B. School-related tour
C. Meet with friends
D. Interested in museum
E. Visit special exhibition/information
F. Other (please specify) _____

8. How did you hear about the Ashmolean Museum?

A. Website
B. Social media (Facebook, Twitter)
C. Magazine or paper
D. Tourism agency
E. Oxfordshire resident
F. Other (please specify) _____

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9. What is your first impression of the Greek revival building with its new extended building?

A. I didn't notice that
B. It gets more natural light with the new building
C. It makes the building itself like an artwork
D. It makes the route of the museum more complicated
E. I don't know

10. How long do you expect to stay here (hours)?

A. ⩽1
B. 1-3
C. 3-5
D. I don't know

Final part: In this part, there are nine questions about your visit to the Ashmolean. (You have already got the last part! Hold on!)

11. The physical environment (including light, space, and layout etc.) in the museum influenced my visit experience.

A. Agree strongly
B. Agree
C. Neither agree nor disagree
D. Disagree
E. Disagree strongly

If you disagree, could you please give a reason

_____

12. 1 Did you notice that there are 'bridges' across galleries around the atriums?

A. Yes
B. No

12.2 When visiting the museum, I clearly know where to start or where to go next.

A. Agree strongly, the route is very clear
B. Agree, I feel good with the tour
C. Neither agree nor disagree, I can choose the route for myself
D. Disagree, sometimes I cannot find my way in the museum
E. Disagree strongly, I will get lost in the museum

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13. What is your opinion about the glass balcony on the façade of the entrance atrium?



A. I didn't notice that
B. Looks good
C. It used for looking around
D. light requirement like a window
E. I don't know
F. Other (please specify) _____

14. The showcases embedded in the walls filled with ceramics from different cultures. What did you feel about this scene?



A. I did not notice
B. It looks interesting
C. It looks like a dialogue between ceramics
D. I don't know
E. Other (please specify) _____

15. When visiting the museum, I go through the whole storyline in each exhibition hall.

A. Agree strongly, each one is amazing
B. Agree, I just walk through each exhibition hall generally
C. Neither agree nor disagree, I did not care about what they exhibit
D. Disagree, I just visit what I am interested in
E. Disagree strongly, I was not interested in the exhibition and I came for a rest

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16. 1 Is your mother language English?

A. YES
B. NO

16.2 When visiting the museum, I feel free to go through each part of the exhibition without any language barrier or difficulties in jargon.

A. Agree strongly
B. Agree
C. Neither agree nor disagree
D. Disagree
E. Disagree strongly

17. When visiting the exhibition, I imagine the story behind the objects I am interested in, or I have some emotional resonance with some objects.

A. Agree strongly
B. Agree
C. Neither agree nor disagree
D. Disagree
E. Disagree strongly

18. When visiting the museum, it has nothing to do with my belief. I just enjoy what the museum shows and I am glad to explore the essence of other cultures.

A. Agree strongly
B. Agree
C. Neither agree nor disagree
D. Disagree
E. Disagree strongly

19. Please consider your surroundings (especially the exhibition space and entrance atrium), focus on your impression of the space and its feature and make a selection.

	4	**3**	**2**	**1**	**2**	**3**	**4**	
dark								light
open								enclosed
tradition								modern
organized								random
linear								non-linear
enjoyable								boring

THANKS FOR YOUR SUPPORT OF MY RESEARCH!

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Data collections and statistics

Please select your age group (years)	Please selcet your gender	Please select the level of education	Please enter the belief you currently identify with
30-49	Male	Bachelor's degree	None
≥65	Male	Bachelor's degree	Christianity
≥65	Female	postgraduate degree or more	Buddhism
30-49	Female	Bachelor's degree	None
30-49	Male	postgraduate degree or more	Christianity
30-49	Female	some college	None
Under 18	Female	High school or lower	None
≥65	Female	High school or lower	Christianity
50-64	Female	postgraduate degree or more	None
18-29	Male	some college	None
18-29	Female	postgraduate degree or more	Christianity
30-49	Male	some college	Kemitian
Under 18	Male	High school or lower	Christianity
18-29	Female	postgraduate degree or more	None
18-29	Female	postgraduate degree or more	None
30-49	Male	postgraduate degree or more	None
30-49	Female	postgraduate degree or more	Christianity
18-29	Male	postgraduate degree or more	None
30-49	Male	Bachelor's degree	None
50-64	Male	postgraduate degree or more	None
30-49	Female	postgraduate degree or more	None
18-29	Female	Bachelor's degree	Christianity
18-29	Male	Bachelor's degree	None
30-49	Male	Bachelor's degree	None
18-29	Female	postgraduate degree or more	None
≥65	Female	Bachelor's degree	Agnosic
30-49	Female	postgraduate degree or more	None
18-29	Female	postgraduate degree or more	Christianity

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30-49	Female	postgraduate degree or more	Christianity
30-49	Male	postgraduate degree or more	Christianity
≥65	Female	Bachelor's degree	None
18-29	Male	postgraduate degree or more	Christianity
18-29	Female	postgraduate degree or more	Christianity
50-64	Female	postgraduate degree or more	None
50-64	Female	some college	Christianity
16-29	Male	postgraduate degree or more	None
18-29	Male	postgraduate degree or more	None
18-29	Male	Bachelor's degree	None
30-49	Female	postgraduate degree or more	Christianity
18-29	Female	some college	Christianity
≥65	Male	postgraduate degree or more	None
≥65	Female	Bachelor's degree	None
18-29	Male	Bachelor's degree	Prefer not to say
18-29	Male	Bachelor's degree	Islam
50-64	Male	some college	Christianity
18-29	Female	postgraduate degree or more	None
18-29	Male	postgraduate degree or more	None
≥65	Female	postgraduate degree or more	Agnostic, Christian in culture.
50-64	Male	postgraduate degree or more	Christianity
18-29	Female	postgraduate degree or more	None
18-29	Male	postgraduate degree or more	None
30-49	Male	postgraduate degree or more	Christianity
≥65	Male	some college without degree	None
50-64	Male	Postgraduate degree or more	Christianity
18-29	Female	High school or lower	Christianity
30-49	Male	Postgraduate degree or more	None
30-49	Male	Postgraduate degree or more	None

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50-64	Female	Some college without degree	Christianity
18-29	Female	Postgraduate degree or more	None
50-64	Male	Bachelor's degree	Christianity
18-29	Male	Some college without degree	Christianity
30-49	Female	Bachelor's degree	Christianity
30-49	Male	Bachelor's degree	None
30-49	Female	Postgraduate degree or more	Atheists/Agnostics
50-64	Male	Postgraduate degree or more	Islam
30-49	Female	High school or lower	Atheists/Agnostics
50-64	Male	Bachelor's degree	Atheists/Agnostics
30-49	Female	Bachelor's degree	None
50-64	Male	Postgraduate degree or more	None
50-64	Female	Postgraduate degree or more	Christianity
18-29	Female	High school or lower	None
18-29	Female	High school or lower	None
50-64	Male	Postgraduate degree or more	None
≥65	Male	Postgraduate degree or more	Christianity
≥65	Female	Postgraduate degree or more	Christianity
30-49	Female	Postgraduate degree or more	None
30-49	Female	Postgraduate degree or more	Christianity
30-49	Male	Some college without degree	Christianity
30-49	Male	Bachelor's degree	Christianity
30-49	Female	Postgraduate degree or more	Christianity
30-49	Male	Postgraduate degree or more	Atheists/Agnostics
50-64	Male	Some college without degree	Prefer not to say
Prefer not to say	Female	Prefer not to say	None
30-49	Female	Bachelor's degree	None
30-49	Female	Postgraduate degree or more	Judaism
30-49	Male	Postgraduate degree or more	Atheists/Agnostics
18-29	Female	Postgraduate degree or more	None
50-64	Female	Postgraduate degree or more	Prefer not to say
18-29	Female	Postgraduate degree or more	Islam

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30-49	Male	Postgraduate degree or more	Meterist
18-29	Male	Bachelor's degree	Atheists/Agnostics
18-29	Female	Bachelor's degree	Hinduism
18-29	Female	Bachelor's degree	Christianity
18-29	Male	Bachelor's degree	None
18-29	Male	Bachelor's degree	None
50-64	Female	Postgraduate degree or more	Judaism
30-49	Female	Postgraduate degree or more	Christianity
18-29	Male	Bachelor's degree	None
18-29	Female	Bachelor's degree	None
18-29	Male	Bachelor's degree	None
18-29	Female	Bachelor's degree	None
18-29	Male	Bachelor's degree	Buddhism
18-29	Male	Bachelor's degree	None
18-29	Male	Bachelor's degree	None
18-29	Female	Bachelor's degree	None

Location	Cost	Theme in museum	Activities	Special exhibition	If you think other factors are also important for Q.5, pl
Very important	Somewhat important	Very important	Not important	Very important	
Somewhat important	Not important	Very important	Somewhat important	Very important	
Somewhat important	Not important	Somewhat important	Somewhat important	Very important	The importance of the collection.
Somewhat important	Somewhat important	Very important	Not important	Very important	
Very important	Very important	Very important	Not important	Not important	
Somewhat important	Somewhat important	Somewhat important	Somewhat important	Somewhat important	
Somewhat important	Somewhat important	Very important	Somewhat important	Somewhat important	
Somewhat important	Somewhat important	Somewhat important	Not important	Somewhat important	
Somewhat important	Very important	Somewhat important	Not important	Very important	
Not important	Not important	Somewhat important	Not important	Somewhat important	
Somewhat important	Very important	Very important	Not important	Very important	
Somewhat important	Somewhat important	Very important	Not important	Not important	
Very important	Very important	Very important	Somewhat important	Not important	

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Somewhat important	Somewhat important	Very important	Somewhat important	Very important	
Not important	Somewhat important	Very important	Not important	Very important	
Somewhat important	Somewhat important	Very important	Somewhat important	Very important	
Very important	Not important	Very important	Not important	Very important	
Somewhat important	Somewhat important	Somewhat important	Somewhat important	Very important	
Very important	Not important	Very important	Not important	Somewhat important	
Somewhat important	Somewhat important	Very important	Not important	Very important	
Very important	Very important	Very important	Somewhat important	Somewhat important	
Very important	Very important	Somewhat important	Somewhat important	Somewhat important	
Very important	Very important	Somewhat important	Very important	Somewhat important	
Somewhat important	Very important	Somewhat important	Not important	Not important	Aesthetic quality.
Somewhat important	Somewhat important	Somewhat important	Somewhat important	Very important	
Somewhat important	Not important	Somewhat important	Not important	Very important	
Somewhat important	Somewhat important	Very important	Somewhat important	Somewhat important	
Very important	Very important	Very important	Not important	Somewhat important	
Somewhat important	Somewhat important	Very important	Not important	Somewhat important	
Somewhat important	Somewhat important	Somewhat important	Not important	Somewhat important	
Somewhat important	Very important	Very important	Very important	Very important	
Somewhat important	Somewhat important	Somewhat important	Somewhat important	Somewhat important	
Somewhat important	Very important	Somewhat important	Very important	Very important	
Very important	Somewhat important	Very important	Somewhat important	Very important	
Not important	Not important	Somewhat important	Not important	Somewhat important	
Somewhat important	Somewhat important	Very important	Very important	Very important	
Somewhat important	Somewhat important	Somewhat important	Not important	Somewhat important	
Not important	Very important	Very important	Not important	Not important	

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Somewhat important	Somewhat important	Somewhat important	Not important	Very important	
Somewhat important	Somewhat important	Somewhat important	Not important	Very important	Knowing about the items displayed beforehand.
Somewhat important	Somewhat important	Very important	Not important	Very important	
Very important	Not important	Very important	Somewhat important	Very important	
Somewhat important	Not important	Somewhat important	Not important	Very important	
Somewhat important	Very important	Very important	Not important	Somewhat important	
Very important	Very important	Not important	Not important	Very important	
Somewhat important	Somewhat important	Very important	Very important	Very important	
Somewhat important	Somewhat important	Not important	Not important	Very important	
Somewhat important	Somewhat important	Very important	Not important	Somewhat important	
Somewhat important	Very important	Very important	Very important	Very important	
Somewhat important	Somewhat important	Very important	Somewhat important	Somewhat important	
Somewhat important	Somewhat important	Very important	Somewhat important	Somewhat important	
Very important	Very important	Very important	Very important	Very important	Cross culture
Not important	Somewhat important	Very important	Not important	Somewhat important	
Very important	Somewhat important	Very important	Not important	Somewhat important	
Very important	Very important	Somewhat important	Somewhat important	Somewhat important	
Not important	Somewhat important	Very important	Not important	Very important	Who is curating, who/what is being shown.
Somewhat important	Not important	Very important	Not important	Somewhat important	
Somewhat important	Somewhat important	Very important	Not important	Very important	
Somewhat important	Not important	Very important	Very important	Very important	
Somewhat important	Somewhat important	Very important	Somewhat important	Very important	
Very important	Somewhat important	Very important	Not important	Somewhat important	
Somewhat important	Somewhat important	Very important	Not important	Somewhat important	
Not important	Somewhat important	Very important	Not important	Very important	

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Somewhat important	Not important	Very important	Not important	Very important	
Somewhat important	Somewhat important	Very important	Very important	Very important	
Not important	Not important	Not important	Somewhat important	Somewhat important	
Not important	Somewhat important	Very important	Somewhat important	Somewhat important	
Not important	Somewhat important	Very important	Not important	Somewhat important	
Somewhat important	Not important	Somewhat important	Not important	Very important	
Not important	Somewhat important	Somewhat important	Not important	Somewhat important	
Somewhat important	Very important	Somewhat important	Somewhat important	Very important	
Very important	Very important	Very important	Somewhat important	Somewhat important	
Somewhat important	Somewhat important	Very important	Somewhat important	Very important	Special interest or shows at a particular time.
Somewhat important	Not important	Very important	Somewhat important	Somewhat important	
Very important	Very important	Very important	Very important	Very important	
Somewhat important	Somewhat important	Very important	Very important	Somewhat important	
Very important	Somewhat important	Very important	Not important	Somewhat important	
Somewhat important	Somewhat important	Somewhat important	Not important	Somewhat important	How popular it is.
Not important	Somewhat important	Not important	Somewhat important	Somewhat important	
Somewhat important	Not important	Very important	Somewhat important	Somewhat important	
Somewhat important	Somewhat important	Very important	Not important	Very important	
Very important	Somewhat important	Very important	Not important	Somewhat important	
Somewhat important	Somewhat important	Very important	Not important	Very important	
Somewhat important	Somewhat important	Very important	Not important	Very important	Special artist.
Not important	Somewhat important	Very important	Somewhat important	Very important	
Somewhat important	Somewhat important	Very important	Not important	Somewhat important	
Very important	Very important	Very important	Not important	Somewhat important	
Somewhat important	Not important	Very important	Somewhat important	Very important	Chinese art

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Somewhat important	Somewhat important	Very important	Not important	Somewhat important	
Somewhat important	Very important	Very important	Not important	Somewhat important	
Very important	Very important	Very important	Not important	Somewhat important	
Very important	Very important	Very important	Somewhat important	Somewhat important	
Somewhat important	Very important	Somewhat important	Very important	Very important	
Somewhat important	Somewhat important	Very important	Not important	Somewhat important	
Not important	Very important	Not important	Somewhat important	Somewhat important	
Somewhat important	Somewhat important	Very important	Not important	Somewhat important	Lots of places to sit.
Somewhat important	Very important	Somewhat important	Somewhat important	Somewhat important	
Very important	Very important	Somewhat important	Very important	Very important	
Very important	Somewhat important	Very important	Somewhat important	Somewhat important	
Somewhat important	Not important	Very important	Very important	Somewhat important	
Very important	Somewhat important	Very important	Somewhat important	Somewhat important	
Very important	Not important	Somewhat important	Somewhat important	Somewhat important	
Very important	Very important	Somewhat important	Very important	Very important	
Somewhat important	Not important	Very important	Very important	Somewhat important	
Somewhat important	Not important	Very important	Somewhat important	Very important	

Is this your first visit to Ashmolean Museum	What is the purpose of your visit?	How do you hear about Ashmolean Museum?
No	Visit special exhibition/information;	Magazine or paper
No	Interested in museum;	Teacher recommendation
Yes	Interested in museum;	Friend.
Yes	Visit special exhibition/information;	Exhibition location.
No	Interested in museum;	Always know it
No	Relax and happy time with family;	Live in Oxfordshire-always know about it.

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No	Relax and happy time with family;	From my mother.
No	Visit special exhibition/information;	Local resident.
No	Visit special exhibition/information;	Word of mouth-recommendation from a friend.
Yes	Meet with friends;Interested in museum;	Friend.
Yes	Visit special exhibition/information;	I saw the exhibition advertised outside.
No	Interested in museum;	Local.
No	Relax and happy time with family;	Oxford residents.
Yes	Interested in museum;	Friend.
No	Meet with friends;	always know
Yes	Interested in museum;	Website
Yes	Relax and happy time with family;	Well know/its reputation.
No	Visit special exhibition/information;	Lived here before.
No	Relax and happy time with family;	Used to live in Oxford.
No	Visit special exhibition/information;	Live in Oxford.
Yes	Meet with friends;Interested in museum;	Word of mouth.
No	Meet with friends;	From Oxford.
No	Meet with friends;	University of Oxford.
No	Relax and happy time with family;	Live in Oxford.
No	Visit special exhibition/information;	Have always know about it.
No	Relax and happy time with family;Interested in museum;Visit special exhibition/information;	Magazine or paper
No	Visit special exhibition/information;	Website
No	Meet with friends;	Family recommendation.
No	Meet with friends;	Can't remember- word of mouth.
Yes	Meet with friends;	Friends.
No	Visit special exhibition/information;	Social media (Facebook, Twitter, etc.)
Yes	Meet with friends;Interested in museum;	General knowledge.
No	Interested in museum;	Website

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Yes	Meet with friends;	Friend.
No	Meet with friends;	Oxford resident.
Yes	Relax and happy time with family;	Mouth to mouth.
No	Relax and happy time with family;	Can't remember.
No	Interested in museum;	Friends.
No	Interested in museum;	Seen before.
Yes	Interested in museum;	Professor.
No	Interested in museum;	Mouth to Mouth.
No	Relax and happy time with family;Interested in museum;	Oxfordshire residents.
No	Interested in museum;	Word of mouth.
No	Interested in museum;	Tourism agency
Yes	Interested in museum;	Walked by.
No	Visit special exhibition/information;	Website
No	Visit special exhibition/information;	Social media (Facebook, Twitter, etc.)
Yes	Interested in museum;Visit special exhibition/information;	Always know of it. (studies)
No	Relax and happy time with family;	Many visits to Oxford.
Yes	Interested in museum;	Social media (Facebook, Twitter, etc.)
Yes	Interested in museum;	Website
No	Relax and happy time with family;	Teach in Oxford
No	Interested in museum;	Oxfordshire resident
Yes	Relax and happy time with family;	Friends (not from Oxford)
Yes	Interested in museum;	My dad
No	Meet with friends;	Oxfordshire resident
Yes	Meet with friends;Interested in museum;	Website
Yes	Interested in museum;	TV
No	Relax and happy time with family;	Social media (Facebook, Twitter, etc.)
Yes	Relax and happy time with family;	Website
Yes	Visit special exhibition/information;	Family member
No	Visit special exhibition/information;	Website
Yes	Visit special exhibition/information;	Poster in London

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No	Visit special exhibition/information;	Magazine or paper
Yes	Relax and happy time with family;Interested in museum;	Website
Yes	Interested in museum;	Husband
No	Relax and happy time with family;	It was mentioned in book/on TV
No	Interested in museum;	Oxfordshire resident
No	Visit special exhibition/information;	Magazine or paper
No	Visit special exhibition/information;	Visited premiously for special exhibition
Yes	Visit special exhibition/information;	Tourism agency
Yes	School related tour;	School guide
No	Relax and happy time with family;	Reputation
Yes	Interested in museum;	Have known for a long time.
Yes	Interested in museum;	Books
No	Relax and happy time with family;	Oxfordshire resident
Yes	Interested in museum;	Oxfordshire resident
No	Relax and happy time with family;Meet with friends;	Oxfordshire resident
No	Interested in museum;	Website
Yes	Interested in museum;	Ex Oxford resident, visiting after 20 years.
No	Meet with friends;	Oxfordshire resident
No	Interested in museum;Visit special exhibition/information;	Oxfordshire resident
No	Relax and happy time with family;	Poster in London underground.
No	Visit special exhibition/information;	Oxfordshire resident
Yes	Visit special exhibition/information;	Magazine or paper
Yes	Interested in museum;	Friends
Yes	Interested in museum;Visit special exhibition/information;	Oxfordshire resident
No	Interested in museum;	Above all
Yes	Relax and happy time with family;	Social media (Facebook, Twitter, etc.)
Yes	Meet with friends;Interested in museum;	Walking
Yes	Interested in museum;	Friends
Yes	School related tour;	Just found it while walking in Oxford.

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Yes	Interested in museum;	Friends
Yes	Interested in museum;	Website
Yes	Interested in museum;	Walking/traveling around the country.
Yes	Interested in museum;	Fiction book
No	Interested in museum;	Work before
Yes	School related tour;	tutor
Yes	School related tour;	tutor
Yes	School related tour;	my tutor
Yes	School related tour;	school trip
Yes	Interested in museum;	Tourism agency
Yes	School related tour;	school trip
Yes	School related tour;	school trip
Yes	School related tour;	Website

What is your first impression of the Greek revival building with its new extended building?	How long will you expect to stay here (hours)?
It gets more natural light with the new building	1-3
I didn't notice that	1-3
It makes the building more transparent to look from inside	1-3
I don't know	1-3
I didn't notice that	1-3
I didn't notice that	1-3
I don't know	1-3
It makes the building itself like an artwork	1-3
It gets more natural light with the new building	1-3
It makes the building itself like an artwork	1-3
I didn't notice that	1-3
I didn't notice that	≤1
It gets more natural light with the new building; It makes the route of the museum more complicated	1-3
It makes the building itself like an artwork	≤1
I don't know	≤1
It makes the building itself like an artwork; It makes the route of the museum more complicated	1-3
I didn't notice that	1-3
It gets more natural light with the new building	1-3
I didn't notice that	1-3
It gets more natural light with the new building	≤1
It gets more natural light with the new building	1-3
It makes the route of the museum more complicated	≤1
I didn't notice that	≤1
I didn't notice that	1-3
I didn't notice that	1-3

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I didn't notice that	3-5
I didn't notice that	1-3
I didn't notice that	≤1
I don't know	1-3
It makes the route of the museum more complicated	1-3
It makes the building itself like an artwork	1-3
I noticed the Greek revival extension, and the natural light provided by the new building as I walked within. I don't know the two style of architecture go with each other, but from within it did not clash too much.;It gets more natural light with the new building;	1-3
Brilliant example of merging "traditional" and "contemporary" architectual design together.;It gets more natural light with the new building;	1-3
It makes the building itself like an artwork;	1-3
It gets more natural light with the new building;	1-3
I didn't notice that;	≤1
I don't know;	≤1
It gets more natural light with the new building;	1-3
It gets more natural light with the new building;	1-3
I don't know;	1-3
It gets more natural light with the new building; It makes the route of the museum more complicated	1-3
It gets more natural light with the new building; It makes the route of the museum more complicated	1-3
I didn't notice that;	1-3
It makes the building itself like an artwork;	≤1
I didn't notice that;	1-3
I didn't notice that;	1-3
It makes the building itself like an artwork;	1-3
It makes the building itself like an artwork;	3-5
It gets more natural light with the new building;	≤1
It makes the route of the museum more complicated	1-3
I didn't notice that;	1-3
It makes the building itself like an artwork;	1-3
It gets more natural light with the new building;	1-3
I didn't notice that;	1-3
I don't know;	1-3
It gets more natural light with the new building;	1-3
It gets more natural light with the new building;	1-3
It gets more natural light with the new building;	I don't know
It makes the building itself like an artwork; It makes the route of the museum more complicated	1-3
It makes the building itself like an artwork;	≤1
It gets more natural light with the new building;	3-5
It gets more natural light with the new building;	1-3
I didn't notice that;	1-3
It gets more natural light with the new building;	1-3

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It gets more natural light with the new building; It makes the route of the museum more complicated	3-5
I don't know;	1-3
I didn't notice that;	1-3
It makes the building itself like an artwork;	1-3
I didn't notice that;	1-3
I didn't notice that;	1-3
I didn't notice that;	≤1
I didn't notice that;	≤1
It gets more natural light with the new building;	1-3
I didn't notice that;	1-3
It makes the building itself like an artwork; It makes the route of the museum more complicated	1-3
It gets more natural light with the new building;	1-3
I didn't notice that;	1-3
I don't know;	≤1
It makes the building itself like an artwork;	1-3
It makes the building itself like an artwork;	1-3
I didn't notice that;	≤1
I didn't notice that;	1-3
It makes the building itself like an artwork;	1-3
It gets more natural light with the new building;It makes the building itself like an artwork;	1-3
It gets more natural light with the new building;	1-3
I didn't notice that;	1-3
It makes the building itself like an artwork;	1-3
I didn't notice that;	1-3
I don't know;	1-3
I don't know;	1-3
It makes the route of museum more complicated;	≤1
It makes the route of the museum more complicated	≤1
I didn't notice that;	≤1
I didn't notice that;	3-5
It makes the building itself like an artwork;	3-5
I didn't notice that;	1-3
It gets more natural light with the new building; It makes the route of the museum more complicated	3-5
It gets more natural light with the new building;	≤1
It makes the building itself like an artwork; It makes the route of the museum more complicated	1-3
It gets more natural light with the new building;	1-3
It makes the building itself like an artwork;	1-3
It makes the route of the museum more complicated	1-3
It makes the building itself like an artwork;	1-3
I didn't notice that;	1-3
I didn't notice that;	1-3

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Did you notice that there are transparent "bridges" connecting each exhibition hall?	When visiting the museum, I clearly know where to start or where to go next.
No	Disagree, sometimes I cannot find my way in the museum
No	Disagree, sometimes I cannot find my way in the museum
Yes	Disagree, sometimes I cannot find my way in the museum
Yes	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
No	Disagree, sometimes I cannot find my way in the museum
Yes	Agree strongly, the route is very clear
No	Disagree, sometimes I cannot find my way in the museum
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Agree, I feel good with the tour
Yes	Agree, I feel good with the tour
No	Neither agree nor disagree, I can choose the route for myself
Yes	Agree strongly, the route is very clear
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
No	Agree, I feel good with the tour
No	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself

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Yes	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
Yes	Agree strongly, the route is very clear
No	Neither agree nor disagree, I can choose the route for myself
Yes	Disagree, sometimes I cannot find my way in the museum
Yes	Agree strongly, the route is very clear
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
Yes	Agree, I feel good with the tour
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Agree, I feel good with the tour
No	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
Yes	Disagree, sometimes I cannot find my way in the museum
Yes	Disagree, sometimes I cannot find my way in the museum
No	Disagree, sometimes I cannot find my way in the museum
No	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
Yes,	Agree, I feel good with the tour
Yes	Neither agree nor disagree, I can choose the route for myself
No	Disagree, sometimes I cannot find my way in the museum
No	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself

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No	Neither agree nor disagree, I can choose the route for myself
Yes	Agree, I feel good with the tour
Yes	Agree, I feel good with the tour
No	Agree strongly, the route is very clear
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
Yes	Agree strongly, the route is very clear
Yes	Agree, I feel good with the tour
No	Disagree, sometimes I cannot find my way in the museum
No	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Agree strongly, the route is very clear
No	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Agree, I feel good with the tour
No	Agree, I feel good with the tour
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Disagree strongly, I will get lost in the museum

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No	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
Yes	Disagree, sometimes I cannot find my way in the museum
No	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
No	Disagree, sometimes I cannot find my way in the museum
No	Disagree, sometimes I cannot find my way in the museum
No	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
No	Disagree strongly, I will get lost in the museum
No	Neither agree nor disagree, I can choose the route for myself
Yes	Neither agree nor disagree, I can choose the route for myself
No	Neither agree nor disagree, I can choose the route for myself
No	Agree, I feel good with the tour
No	Disagree strongly, I will get lost in the museum
No	Neither agree nor disagree, I can choose the route for myself
No	Agree, I feel good with the tour

What is your opinion about the glass balcony on the facade of the entrance atrium?	As the picture shows, the windows embedded in the walls faced each other; each side was filled with objects such as porcelain from different cultures. What did you feel about this?
I didn't notice that	I didn't notice that
Looks good	I didn't notice that
I didn't notice that	I didn't notice that
Looks good	I didn't notice that
I didn't notice that	I didn't notice that
Looks good	It looks interesting
Looks good	It looks interesting
Looks good	It looks interesting
It used for looking around	I didn't notice that
Looks good	I didn't notice that
I didn't notice that	I didn't notice that

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Light requirement like a window	It looks interesting
Looks good	It looks interesting
I didn't notice that	It looks like a dialogue across culture and time
Looks good	I didn't notice that
Looks good	I didn't notice that
Looks good	I didn't notice that
I didn't notice that	It looks interesting
I didn't notice that	I feel very unobservant.
Looks good	It looks interesting
Looks good	It looks like a dialogue across culture and time
Looks good	It looks interesting
Looks good	It looks interesting
Looks good	It looks interesting
Looks good	It looks interesting
I didn't notice that	It looks interesting
I don't know	I didn't notice that
It used for looking around	I didn't notice that
I don't know	I didn't notice that
Looks good	It looks interesting
Looks good	It looks like a dialogue across culture and time
I didn't notice that	I didn't notice that
It used for looking around	It looks interesting
Looks good	It looks interesting
Looks good	I didn't notice that
I didn't notice that	It looks interesting
I didn't notice that	It looks interesting
I didn't notice that	It looks interesting
Looks good	It looks interesting
It used for looking around	It looks like a dialogue across culture and time
Looks good	I didn't notice that
I didn't notice that	It looks like a dialogue across culture and time
Looks good	It looks interesting
Looks good	I don't know
I didn't notice that	It looks interesting
Light requirement like a window	It looks interesting
Light requirement like a window	It looks interesting
I didn't notice that	I didn't notice that
I didn't notice that	I didn't notice that
I didn't notice that	I didn't notice that

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I didn't notice that	I didn't notice that
Looks good	It looks interesting
It used for looking around	I didn't notice that
I didn't notice that	I don't know
I don't know	I don't know
Looks good	It looks interesting
Looks good	It looks like a dialogue across culture and time
Looks good	It looks interesting
Looks good	I didn't notice that
Looks good	It looks interesting
Looks good	It blends with the structure of the room.
Looks good	It looks interesting
Looks good	It looks interesting
I didn't notice that	I didn't notice that
Looks good	It looks interesting
It used for looking around	It looks interesting
Looks good	It looks interesting
Looks good	I didn't notice that
I didn't notice that	It looks like a dialogue across culture and time
I didn't notice that	It looks interesting
Looks good	It looks interesting
Looks good	I didn't notice that
Looks good	I didn't notice that
Looks good	It looks interesting
I didn't notice that	I didn't notice that
Looks good	It looks interesting
Light requirement like a window	It looks like a dialogue across culture and time
I didn't notice that	It looks interesting
Looks good	It looks interesting
I didn't notice that	It looks interesting
I didn't notice that	I didn't notice that
Looks good	It looks interesting
Looks good	It looks interesting
Looks good	It looks interesting
Looks good	It looks interesting
I didn't notice that	It looks interesting
I didn't notice that	I didn't notice that
I didn't notice that	I didn't notice that
Looks good	It looks interesting
I don't know	I don't know
It used for looking around	It looks like a dialogue across culture and time
I didn't notice that	I don't know
Looks good	I didn't notice that

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Looks good	It looks interesting
I didn't notice that	It looks like a dialogue across culture and time
I didn't notice that	It looks interesting
Looks good	It looks interesting
Looks good	I didn't notice that
I don't know	It looks like a dialogue across culture and time
Light requirement like a window	It looks like a dialogue across culture and time
I don't know	It looks like a dialogue across culture and time
It used for looking around	It looks like a dialogue across culture and time
Looks good	I don't know
Light requirement like a window	It looks like a dialogue across culture and time
It used for looking around	It looks like a dialogue across culture and time

When visiting the museum, I go through the whole storyline in each exhibition hall	Is your mother language English?
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	Yes
Neither agree nor disagree, I did not care about what they exhibit	Yes
Agree, I just walk through each exhibition hall generally	Yes
Agree, I just walk through each exhibition hall generally	Yes
Agree strongly, each one is amazing	Yes
Disagree, I just visit what I am interested in	Yes
Agree strongly, each one is amazing	Yes
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	Yes
Agree, I just walk through each exhibition hall generally	No
Disagree, I just visit what I am interested in	No
Neither agree nor disagree, I did not care about what they exhibit	Yes
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	Yes

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Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	Yes
Agree, I just walk through each exhibition hall generally	Yes
Agree strongly, each one is amazing	No
Agree, I just walk through each exhibition hall generally	Yes
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	Yes
Agree strongly, each one is amazing	Yes
Disagree, I just visit what I am interested in	No
Disagree, I just visit what I am interested in	No
Neither agree nor disagree, I did not care about what they exhibit	Yes
Agree, I just walk through each exhibition hall generally	Yes
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	Yes
Neither agree nor disagree, I did not care about what they exhibit	No
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	No
Agree, I just walk through each exhibition hall generally	No
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	Yes
Neither agree nor disagree, I did not care about what they exhibit	Yes
Neither agree nor disagree, I did not care about what they exhibit	No
Agree, I just walk through each exhibition hall generally	Yes
Agree, I just walk through each exhibition hall generally	Yes
Agree, I just walk through each exhibition hall generally	Yes
Neither agree nor disagree, I did not care about what they exhibit	Yes
Disagree, I just visit what I am interested in	No
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	Yes
Agree strongly, each one is amazing	Yes
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	Yes
Agree strongly, each one is amazing	Yes

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Agree, I just walk through each exhibition hall generally	Yes
Agree, I just walk through each exhibition hall generally	Yes
Agree strongly, each one is amazing	Yes
Disagree, I just visit what I am interested in	Yes
Neither agree nor disagree, I did not care about what they exhibit	Yes
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	No
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	No
Agree strongly, each one is amazing	No
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	Yes
Disagree, I just visit what I am interested in	No
Agree, I just walk through each exhibition hall generally	Yes
Agree, I just walk through each exhibition hall generally	Yes
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	Yes
Disagree, I just visit what I am interested in	No
Agree strongly, each one is amazing	No
Disagree, I just visit what I am interested in	Yes
Agree, I just walk through each exhibition hall generally	No
Agree strongly, each one is amazing	No
Agree, I just walk through each exhibition hall generally	No
Agree strongly, each one is amazing	No
Agree, I just walk through each exhibition hall generally	No
Agree, I just walk through each exhibition hall generally	No
Agree strongly, each one is amazing	No
Agree, I just walk through each exhibition hall generally	No
Neither agree nor disagree, I did not care about what they exhibit	No