



## RESEARCH ARTICLE

## A Case Study Analysis of Bronze Collections in Museums for Cultural and Historical Significance

Yongli Dai<sup>1</sup>, Mastura Haji Mohd Jarit<sup>2\*</sup>, Mengjie Wang<sup>3</sup><sup>1,2,3</sup> College of Creative Art, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia, 40450<sup>1</sup>College of Arts and Media Design, Nanchang Institute of Science & Technology, Nanchang, Jiangxi, China<sup>3</sup>College of Creative Design, Changzhou Vocational Institute of Textile and Garment, Changzhou, Jiangsu, China

ARTICLE INFO	ABSTRACT
Received: Aug 16, 2024 Accepted: Oct 9, 2024	The paper conducted qualitative research to study how the bronze artefact collection of the museums promotes the historical and cultural heritage and perform educational knowledge communication to the viewers through the bronze design patters. The paper used the framework of semiotic analysis on the museum artefacts and collects its data from the museum catalogue as well as a semi-structured interview of seven participants who have the experience of visiting museums to gain information on history and culture. The paper approaches the study through the philosophical underpinning of interpretivism by studying the semiotic meaning communication based on the sociocultural ideals and practices historically associated with these bronze collectibles of the museum.
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<b>*Corresponding Author:</b> mastu841@uitm.edu.my	

### INTRODUCTION

Museums can create a significant impact on the cultural and historical knowledge transfer through its use of artefacts that reflect the cultural image of the time. Museums house the cultural and historical products having traditional values as well as scientific interests which posit museums in the best interest of researchers and specialists as well as common public who wish to seek knowledge (Yasmin et al., 2017). Furthermore, museums also contribute to the development of the cultural tourism industry that also encourages the visiting motivations of the visitors (Vareiro et al., 2021). Museums in the recent times have emerged as the learning sites for the public (Lowman & Kress, 2017). In the recent times, China has introduced new policies and rules that promote the development of cultural heritage through the souvenirs of museums which are essentially the cultural relics displayed for the visitors (Hongrui, 2017). These cultural relics have become crucial in promoting the history and cultural heritage of a country or a region of which the museum houses the artefacts about. Accordingly, museums have become an ideal space for the expansion of the cultural knowledge among the visitors. To that end, this research paper takes the approach of mixed method

to identify the role of museums in promoting cultural knowledge by establishing a background for the same.

### ***Bronze in the museums and its social culture significance in museum studies***

Museums in China have a long history of origin in the form of its display of cultural artefacts aimed at public viewing. "The history of museums in China can be traced to Shang Dynasty (1,600-1,045 BC) when bronze vessels and jade articles were stored in the imperial household and ancestral temples for ancestor sacrifice" (Graburn & Jin, 2017, p.3). During the Han dynasty (220 BC - 220 AD), these collections were ideally kept in the imperial court for the entertainment of the emperors, however, the earliest museums of China can be attributed to the Temple of Confucius (478 BC) which was maintained for education and research. However, in the recent times of globalised and commercialised China, museums are upheld by the policies and public strategies as a pivotal body to promote the cultural and historical meaning through the artefacts in the national and international scale that promotes the national self-consciousness of the country (Bollo & Zhang, 2017). The image of the country that the museums can create for the visitors therefore creates a symbolic meaning for the viewers through the relics and artefacts that they include in their display for public education. Accordingly, the artefacts create awareness among the people in both national as well as international settings which allows the museums to promote their role of educational institutions. Accordingly, the cultural relics presented to the people for viewing creates a symbolic meaning that can be studied through semiotic perspectives to denote the kind of information and message these artefacts promote to the viewers. Museums, therefore, become a space for engagement with the cultural heritage for the visitors that enhance various aspects such as visitor engagement that leads to increase in tourism, as well as educational gains that motivate parents and children to engage with museums closely. Consequently, it can be said that such benefits can implore the nation to maintain its historical values and cultural identity that can be communicated internationally through globalised communication media. This paper, thus, builds on these ideas to study the significance of bronze museum relics in promoting cultural knowledge.

#### ***1.2 Research question and objectives:***

The paper aims to study the significance of museum artefacts, especially the bronze artefact collections of the museums to note their educational value and cultural significance through a case study of the National Museum of China. Accordingly, the paper aims to answer the questions:

- What implications do the bronze patterns of museum collections hold for its cultural and historical value?
- How do the bronze design patterns of museum collectibles communicate the sociocultural and historical knowledge to the visitors of the museum and the visual impact it has on the viewers?

Accordingly, the paper addresses the following objectives:

- To determine the cultural and historical significance of the bronze patterns of collections in museum studies.
- To study the visual impact of the bronze design patterns for communicating sociocultural and historical knowledge to general public.

## **2.0 LITERATURE REVIEW**

### ***2.1 Bronze in the sociocultural context of China's history***

Bronze holds a dominant role and identity in the ancient China while having social significance in the national context due to its historical value. The manufacturing of Bronze items through moulding and casting approaches were used in many sociocultural contexts which includes the making of ritual

vessels of ancient China which became the hallmark during the Bronze Age of the Central Plains of China (Liu et al., 2019). Bronze casting in China is nearly 3700 years old with most bronzes belonging to the Bronze Age around 1500-300 BCE which were meant for the worship of ancestor and commemoration of important events in the lives of the possessors by naming them in the bronze inscriptions (Sullivan & Silbergeld, 2016). The earliest of these bronzes were originally excavated in Erlitou in the Henan province which connected to the Shang dynasty and led to the investigation of the earliest civilisations of China. The inscriptions of the important events and the achievements of the early Chinese society on the cast bronze items therefore reflect the narratives of the owners as well as their social experiences of the time. Presenting these bronze artefacts in the museums, therefore, allows the viewers to interact with them and infer meanings and understandings about the cultural history of these bronze artefacts through their designs and patterns through semiotic approaches.

### **2.3 Role of museums in promoting education**

Museums are one of the key players of the education system that acts within the informal setting and aims at the communication of knowledge of high-prized educational standards. Museums act as a learning hub for the visitors by providing them with unique experiences through their interaction and engagement with various subjects such as arts and social sciences while considering the individual context and experiences of the visitors that aim to prioritise the learning experiences of the visitors over their educational verbosity (Andre et al., 2017). The museums of the Museum Sector of the UK are often housed inside the historical buildings as an attempt to promote and maintain the cultural significance of the heritage sites and are maintained by the local authorities to ensure the legacy of these collections (Loach et al., 2017). Accordingly, Geris and Özdener (2020) note that the museum industry is an important part in developing the public learning sector that helps to boost the cognitive development of the learners and aide in their problem-solving abilities. The active engagement of the museums allows people from all social backgrounds to seek and find the information they need based on their interpretation and understanding of meaning from the museum relics. This helps them to engage deeply with the cultural and historical contexts of the artefacts and perceive it through their experience of the everyday life. For this approach, museums participate in public engagement with its visitors while collaborating with both expert and non-expert participants through an upstream community interaction model to promote scientific knowledge in a non-hierarchical dialogic exchange (Watermeyer, 2016, p.72). This is done through the elaborative displays of the museum artefacts that portray the historical and cultural elements that caters to the educational demands of people from a wide range of age, class, and other social benchmarks (Baker et al., 2016). While this promotes the sustainability of the museums, it also promotes cultural inclusivity among the visitors as the artefacts provide detailed information and it is interpreted and deducted by the viewers based on their understanding guided by their social experience. Therefore, museums allow a deeper engagement with knowledge to its visitors that goes beyond the standard knowledge of internalising given texts of the formal classroom settings and promotes experimental and interpretive learning that develops from cognitive understanding of the learners.

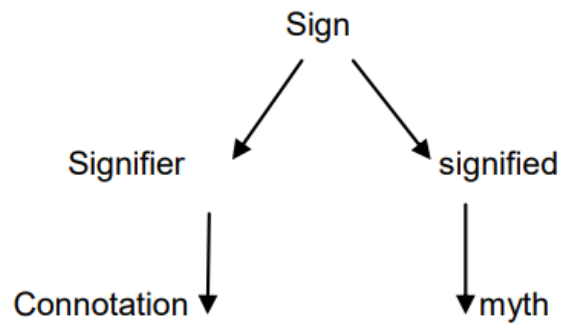
### **2.4 Visual knowledge acquisition**

The knowledge communication of museums not only goes beyond the formal classroom setting to promote knowledge, but it also promotes knowledge through the online communication space using virtual platforms. Modern museums are emerging significantly in the virtual learning technology where the museums include virtual technologies to communicate information and promote education to the visitors from various parts of the world (Lowman & Kress, 2017). This promotes visual communication of the information for the viewers and allows them to access information globally even from remote locations. For that reason, digital technology of digital archives is being rapidly introduced within museums through the mode of VR technologies which helps to create a

simulated environment of the history and culture from where the artefacts belong (López-Martínez et al., 2020). This allows the visitors to gain knowledge about the historical values and cultural and traditional meanings and practices assigned to the artefacts by its socio-contemporary times. Accordingly, various countries have introduced various laws and policies for the protection and preservation of these intangible cultural heritage (ICH) items such as the UNESCO Convention 2003 concerning the conservation of ICH (Hariri, 2021, p.153). These virtual communication approaches have been introduced by many museums in various countries such as China, India, and others to promote the cultural heritage of the country and communicate knowledge and information to the people through its artefacts. While the Palace Museum (Forbidden City) (n.d.) in Beijing, China created a simulated museum space replicating the palace that can be accessed through their official website, presenting to the viewers the simulated environment of history, the Salar Jung Museum (n.d.) in Hyderabad, India conducts virtual exhibitions to present to its viewers the experiences and historical information of Salar Jung III. These studies indicate that the museums promote a learning environment and experience for the viewers that is not restricted to the traditional mode of learning information by reading books but rather communicates knowledge to the viewers through visual modes that might act as signs and symbols through which the viewers infer meanings through understanding and interpretation. Such an approach, while taking on a semiotic frame, helps to communicate information pertaining to history and culture through the artefacts and the various patterns of designs and their elements they are made with.

### **2.5 Theoretical framework: Semiotic analysis**

Considering the views of the existing studies on the role of museums in imparting knowledge and information on cultural history, the current paper applies the theoretical framework of semiotic analysis. Semiology, or semiotics is the study of any signs and symbols that can communicate any form of meanings, through both verbal and non-verbal signs, which Umberto Eco defined as the ability to use an object to tell a lie suggesting if something can be used to tell lies, it can be used to convey any meanings to the viewers (Griffin et al., 2019). Semiotics was developed by the French philosopher and semiologist Roland Barthes from the studies of structuralism by Ferdinand de Saussure, where Barthes built on denotation and connotation through the “relationship between the signifier (expression) and the signified (content) in a sign to external reality” (Siregar, 2022, p.2). This approach of studying the meaning and expression through the content that frames a sign for the viewer is a dominant approach in media studies where the viewer witnesses various forms of text to interpret the meaning. Bouzida (2014) notes this further, suggesting that applying semiology in the context of media helps to understand the implied meaning by decoding the visual texts and images acting as symbols and visual language which can be studied through the denotative and connotative approach. “Barthes considered the analysis of concrete sign vehicles –text and images – as vehicles of culture and ideology or myth” (p.1003). This suggests that any social image of language can be used to interpret the myths connoted within the social context of the sign. Accordingly, these signs can be understood to interact with the social environment of the perceiver as well as historical and sociocultural myth of the time contemporary to the sign to maintain the connotation of the meanings. This suggests that the meanings are connoted by the signs to the viewers through the object (signifier) as well as the signified meaning that it connotes based on the sociocultural context of the object, the signified while the viewer denotes this meaning through their individual experience of their immediate social environment that influences their perception of the sign and denotation of the meaning (Fig. 1). Therefore, semiology, or semiotic analysis present a groundwork for this research paper which studies the role of bronze artefacts in producing sociocultural and historical meaning to the viewer while also supporting with the views and experiences of the museum visitors through their interview responses.



**Fig. 1: Visual representation of Roland Barthes' Semiology (Bouzida, 2014, p.1003)**

### ***Application of semiotic analysis in the context of bronze museum collections.***

For the current paper, the theoretical framework of semiotic analysis is applied to the case of National Museum of China and the bronze displays accessed through the online official website and virtual tours. Semiotic analysis is applied to the context the bronze artefacts of the museum that are intended to communicate information and cultural knowledge to the viewers about the time from when these artefacts belong. The application of semiotic analysis to museum artefacts and the museum communication space is studied by Czachur et al. (2022, p.54) who notes that artefacts and exhibitions are the key factors of museum communication which acts as “a sign and a text” simultaneously. This sign is a multi-coded/multimodal, multifaceted, and comprehensive text that need to be analysed through multifaceted interpretative approach. This approach indicates that the museum artefacts in the current study needs to be interpreted for the meaning they seem to express by identifying them as multimodal signs representing the sociocultural image of the artefacts contemporary to the objects. Simultaneously, this analysis is backed by the interview responses from the participants that presents their observations on how these museum artefacts communicate meaning and information to the viewers and the kind of experiences these viewers develop. Notably, interviews are important for collecting information on the views and experiences of research participants and are more efficient than anonymous surveys and questionnaires as interviews promote a direct interaction between the participants and the researchers to investigate their perceptions and reactions to events and issues (De Fina, 2019). Applying these ideas to the context of this paper notes how the bronze artefacts of the National Museum of China help to study the sociocultural information the museum provides to the viewers by acting as the social sign where these bronze artefacts and their design patterns become the signifier while the historical, cultural, and traditional values and information related to the contemporary society of these relics. While this approach justifies the signifier aspect of museum as a social symbol and sign, the signified aspect is studied through the experiences and views of the interview participants from their observations on how these museum relics present cultural knowledge and information to them and the kind of interpretative approach they take in understanding the social connotations that these museums objects denote. Therefore, applying semiotic analysis to the current study helps to gather a holistic observation of the social educational impact that museums have in communicating history and culture through its artefacts.

## **3.0 METHODOLOGY**

### ***3.1 Research method: mixed***

The paper incorporates qualitative research method through the combination of primary qualitative interviews and primary qualitative case studies to study the historical significance of the bronze museum artefacts along with the experiences of visiting the museums by the viewers. Qualitative interviews using long interview are aimed at gaining insight into the experiences of the participants by “asking open-ended, semi-structured questions with deeper exploration of unexpected topics

related to the study as opportunities occur” (Woodside & Wilson, 2016, p.274). These participants are often the members of a community or sub-community who can share their experiences positioned within the community cultural context. Applied in the context of sociological research, case studies also help the researchers to examine complex phenomena for in-depth understanding (Heale & Twycross, 2018). This approach is undertaken in this research to perform interpretive research that is guided by the observations of the experiences of the participants who are situated in the context of learning cultural values and heritage through museum artefacts. Therefore, the research takes on an ethnographic approach in identifying the learning experience the visitors have from these museums and their relics as well as the cultural significance these artefacts have for the visitors of the museums.

### **3.2 Philosophical underpinning: Interpretivism**

The current research is guided by the philosophical underpinnings of Interpretivism that aid in the collection of qualitative data from the experiences and observations of the research participants. Interpretivism, by its nature, promotes qualitative research approaches with its focus on subjective pursuit of data analysed from the perspective of the people participating in the research to establish contextual depth in the knowledge acquisition process by examining social phenomena in the natural settings (Chowdhury, 2014). The interpretivist approach emerges from the ideas of the 18th century philosopher Giambattista Vico who opposed Descartes to note that the social phenomena are studied through the experiences of the people involved within the context of the event (Ryan, 2018). This interpretivist ideal, when applied to the context of museum studies, allows the identification of the various symbolic meanings created by the artefacts and relics that are displayed for their historical values. In the context of the current research, interpretivism is applied in decoding the historical significance and the cultural meanings created by the museums and their displayed artefacts to create cultural awareness among the visitors and maintain its identity of educational forum. Thus, the study presents in-depth understanding of the significance of bronze artefacts and the experiential observations the users have from them.

### **3.3 Sampling and Data collection**

For the current research, a combination of case study and qualitative interview was conducted, for which the case study was performed on National Museum of China and the interview was conducted with 7 participants selected through purposive sampling. The purpose of choosing National Museum of China for this research is to study the bronze artefacts of the museum to understand their significance and the kind of cultural information these artefacts promote to its visitors in the form of symbolic meaning. Accordingly, the interview was aimed at contextualizing with and verifying the information observed through the case study. The participants for the interview were chosen through purposive sampling because it allowed the selection of the research participants based on the common factor of them having visited any museum in their lifetime. “A purposive sample is the one whose characteristics are defined for a purpose that is relevant to the study” (Andrade, 2021, p.87). This means that the selected participants for a research share a common criterion that adds value to the research objectives, making it purposeful research for the researcher. Consequently, the research participants for this paper were chosen with the purpose of gaining insights into their experiences of visiting museums and gathering knowledge about the history and culture of China through the bronze artefacts displayed in the museum.

### **3.4 Data analysis**

Following this, the current research paper applied thematic analysis for the data analysis purpose to identify the specific themes that emerged from the responses of the participants. “Thematic analysis (TA) is a method for identifying, analysing and interpreting patterns of meaning” by providing “accessible and systematic procedures for generating codes and themes” within qualitative data

(Clarke & Braun, 2017, p.297). This approach is therefore grounded by a range of theoretical frameworks rather than any one specific approach. This approach of thematic analysis provides the foundation for the development of the codes and themes through inductive and deductive approaches, where inductive approach requires the developing of the codes from the data while the deductive approach builds on the existing theories and knowledge to interpret the meaning of the data (Terry et al., 2017). In the context of the present study, the deductive approach is undertaken in order to apply the theoretical framework of semiotic analysis to infer the meanings of the themes and codes generated through the case study of the National Museum of China as well as the interview responses. This will help to deduct the meanings and cultural significance that the bronze artefacts promote to the viewers.

#### 4.0 FINDINGS

**Table 1: Interview responses**

Themes	National Museum of China (n.d.)	Observations from interview (Appendix 2)
History, culture, and traditions	The museum has multiple artefacts from various ages of ancient China. The museum has various exhibitions and online interactive interface for communication with the users through their official online website. The NMC has over 1.4 million items in their collection, which covers subjects on “ancient and modern artefacts, rare and antiquarian books, and works of art”. It has collected over 815,000 items related to the ancient cultural heritage, around 340,000 modern cultural heritage objects, and more than 240,000 rare and antiquarian books. The collection also includes round 6,000 Grade One cultural relics. In the recent years post the 19th National Congress of the CPC, the museum increased its efforts of collecting items that are representative of the culture and heritage that reflect the historical revolutionary times as well as the contemporary modern culture of the country. The museum annually collects 50 items related to the ancient culture and over 1,000 sets of modern artwork and cultural pieces.	The interview participants note that the museum artefacts reflect the sociocultural history of the ancient China and present the lifestyle and everyday practices related information to the viewers. The participants identified that the museum artefacts are important for the educational gains of the people as these can inform the viewers about the everyday practices of the people in those contemporary times as well as inform people of the heritage of the country. The participants note that these historical artefacts can enhance the emotional resonance of the people with the artefacts and also make people aware of the cultural past. The participants noted that museums can promote the cultural knowledge and promote the national image of the country through the artefacts. They note that not only these products inform the viewers about the past, they also contextualised the meanings in the present modern-day scenarios which helps to understand the significance of these objects.
Bronze artefacts	The museum holds bronze collections from the Shang dynasty. The collection ideally has various objects that were used by people traditionally on an everyday basis such as the taotie masks and bronze dings which were used for the purpose of worshipping the ancestors. There are two issues of the collections of the National Museum of China In the first issue, “there are	The identification of the various museum bronze artefacts made by the people in the interview align with the artefacts found in the National Museum of China. Many of the participants such as respondent 1 noted the specific objects that they see in the museums such as the bronze ding and masks with taotie patterns while others noted that the museum

	<p>251,523 records of collection data and 306,447 items. Among them, there are 198,110 records of ancient collection data and 200,272 items of collections, including porcelain, coins, archaeological excavations, bronze Buddhas and jades left by scholars.” These bronze artefacts of the museum collection include single-column jar with Taotie pattern, Taotie pattern bowl, dragon tiger zun, taotie pattern jar, bronze arm guard, goblet with taotie pattern, Bronze Francium with Turquoise-Inlaid Oblique Square Cloud Pattern, Yin Hou bowl, Cai hou binding bell, and many other items which belong to the Shang dynasty and the Western Zhou period.</p>	<p>bronze artefacts in general include the everyday objects that reflect the practices of the people. The respondents note that the bronze artefacts can tell stories about the experiences of the people which suggests the sociocultural implications of the people and their life experiences during the ancient times. The participants note that the bronze artefacts of the museum also present visual aide to the viewers as the artefacts communicate to the viewers in the forms of symbols creating meanings for the people to interpret. They note that these visual communications often include a semiotic approach which allows the viewers to also understand the cultural history.</p>
<p>Virtual visual communication</p>	<p>The museum has and elaborate online space for the virtual visual representation of their collection of the ancient bronze and other products through their virtual tours as well as the elaborate online catalogue that consists of the record of all the details pertaining to the individual products including their images. The museum has thematically classified online catalogues that hold various products in their various relevant categories that can be navigated by the people visiting the online official website of the museum. This can be directly accessible using the basic digital devices such as the laptops and mobile phones suggesting an easy accessibility of the visual communication of historical and cultural values and meanings of the objects to the viewers.</p>	<p>The participants of the interview noted that the inclusion of virtual museum tours using the various digital technologies such as the virtual reality, AI and augmented settings can help to cater to a wide demographic by the museums reaching out to the individually and provide information based on their individual demands. They note that such an approach breaks any spatiotemporal barriers so that the museums can cater to the remote audience, as well as they can also help the individuals who may have any form of disability or children who are unable to travel to the museum to access the information using their virtual navigational tours and the digital devices which have become basic commodities and can be present with every person.</p>

## 5.0 Discussion

### 5.1 Objective 1: To determine the cultural and historical significance of the bronze patterns of collections in museum studies.

#### Cultural symbolism of bronze

The bronze artefacts of the National Museum of China hold significant cultural symbolic value that reflects the traditional values of the objects in the then-contemporary times of society. The findings from the museum show that the bronze patterns primarily have Taotie motifs in the various kinds of artefacts such as the jars and the bowls which is also supported by the views of the interview respondents who note that Taotie motif is one of the dominant design elements of bronze artefacts in ancient China. From the cultural perspective, the Taotie pattern is known to be mysterious and ferocious as it represents the fifth son of the Dragon and were often used as sacrificial tools



symbolizing a sacred power of the ruling class during the Shang and Western Zhou dynasty (Bai, 2022). These observations are furthered by Fu (2018) who notes the historical significance of Taotie which is known as a dragon and the Chinese ancient ding are the cooking utensils. This suggests that the ancient bronze objects found in the museum spaces are also identified by the interview participants which indicates that these museum products hold significant value in the sphere of educational information to the learners. In the modern conceptions, this symbolizes the political power of the country and the social status of the people and the nation. Studying this observation through the framework of semiotic analysis and applying it in the context of the responses by the interview participants and in the context of the case study of National Museum of China, the taotie patterns of the artefacts present the cultural implications in the modern-day context. These artefacts and indicate the cultural heritage of the country as well as the social image of politics and the state. While the objects historical reflect the sociocultural image, the political power, and the economic status of the ruling class of that time which was the Shang dynasty and the Zhou dynasty, in the current context it can be interpreted as the social image and the political power of the People's Republic of China and its government. This presents an understanding of the cultural implications that the bronze artefacts of the museum have on the current society suggesting the present-day cultural scenario.

### **Historical significance and evolution of bronze**

The objects of the museum including the dings and the taotie patterned utensils which are observed as ritualistic products used historically for worshipping the ancestors suggesting that the museum objects are essential for imparting educational knowledge to the viewers of the museums. The observations by the interview participants support this view noting that the museum objects have historical significance which has evolved into the modern frame (Appendix 2). It has been noted that in order to promote the bronze products and their historical significance, the museum cultural and creative industry responsible for the housing of these products have participated in the modern representation of the historical bronze designs such as bronze jues as an attempt to deepen the cultural significance (Wu et al., 2023). This view is further emphasised in the study by Sun et al. (2022), who applied the principles of denotation and connotation of design semiology to the historical bronze objects of the early ritual practices in their attempt to transform the design features in the modern setting. They noted that such an approach can be inherited and interpreted in the modern design industry to incorporate traditional and cultural design features in the contemporary design sites to enhance the values of the cultural ideals and promote them further in the modern world. Through the semiotic analysis, this approach indicates that the bronze wares of the museums hold symbolic meanings and act as texts which can be contextualised within the modern society to create the social representation of the historic events that can help to reach the modern viewers. This is observed by the interview participants who noted that the historical objects of the museums hold information related to the ancient times and the sociocultural image of the time that can be communicated to the viewers of the recent times through these museum artefacts and souvenirs and communicate. Developing the ancient design patterns in the modern contexts can also then help to communicate the cultural and traditional values that people attached to these objects and present them in the recent times. This indicates a cultural evolution of the historical products that functions in the society in a symbolic fashion suggesting to the viewers the history of the products and promoting deeper knowledge.

### **Reflection of the everyday practices**

The case study on the National Museum of China indicates that the cultural and creative products, from the perspective of their designs, are a close representation of the cultural and historical image of the country with indication of a cultural enhanced image of the moral status of the people. The participants of the interview noted that the museum artefacts often that are displayed for public

viewing consists of objects that were meant for everyday practices by the people of the ancient times suggesting that these objects which consist of items such as jars, bowls, and dings were used of everyday cooking purposes by the people (Appendix 2). This reflected the everyday life and practices suggesting the cultural and traditional values and heritage during the Shang and the Zhou dynasties within the everyday learning environment of the modern times through these museum objects. To that end, Kaya and Yağız (2015) note that the museums promote the clear and authentic representation that is communicated conceptually and visually to the viewers. The researchers also note that such representations contain the essence of not only the culture but also the geography of a society and that they constitute of an independent genre of their own. These everyday objects can then be seen as a medium of expression by the historical past and the stakeholders who maintain that past within the present-day contemporary dynamics suggesting the participation and involvement of museum in communicating information and knowledge to people. This posits the museum as an educational institute responsible for the communication of a deeper base of knowledge to the people. Situating this idea within the context of museum-based public education, the museums reach out to a much wider demographic than the institutionalized educational platforms of the formal settings, suggesting that the museums are well-equipped to communicate historical ideas to the viewers from global outreach where it communicates not only the important and significant events from the history but also informs about the minute details about everyday practices of the common people in their mundane life along with the practices by the imperial court. This suggests how the museum artefacts situate the museum in a social educational communication point where the museums can inform to the viewers the minute details pertaining to the history, heritage, and culture of the country.

### **Bronze as a reflection of the national heritage**

The idea that the museum and the artefacts it holds that are made from the bronze can communicate the sociocultural identity and history and heritage of a country to the viewers is also reflective of the ability of the museum artefacts to communicate the national image of the country. The interview participants (Appendix 2) note that the sociocultural message that the museums communicate to the viewers indicate about the practices of the people while the findings from the secondary literature by Bai (2022) note that the artefacts also reflect the power identity of the ruling class of the people which used to be the Shang dynasty and the Zhou dynasty during the Bronze period of China. This indicates that the museum artefacts made of Bronze from these dynasties also reflect the national image of the country in the present-day context since it is noted earlier that the bronze designs of the ancient times are being cast in the present context to align and associate with the practices and principles of the modern times. The idea of products promoting the national image of a country through the museum sites can then be viewed in terms of nation branding in the international context. The promotion of products based on the culturalist and identity shared in one nation within the context of another nation and promoting the value of that product based on its perceived value by the other nations then creates this nation branding of the products on the international scale (Rius Ulldemolins & Zamorano, 2015). This idea in the international communication of knowledge and identity through the museum artefacts suggests that the sociocultural, historical, and political image that the museums promote to the viewers, especially through their virtual space reaches the international borders and promotes the ideas in the other nations following the standards of the native country, and thus creates a national identity in the form of nation branding for the other nations. This promotes the products and ideas following the same value standards and importance rate in the international context that the products are assigned to in the national level. This falls in the context of globalised media communication where museums, thus, act as media tools for communicating the national image to its international viewers.

### ***5.2 Objective 2: To study the visual impact of the bronze design patterns for communicating sociocultural and historical knowledge to general public.***

## Visual communication

The case study on the National Museum of China indicates the presence of their visual communication mode thoroughly present in their official online website which allows the viewers to engage visually with the products and acquiring the sense of the design patterns promoted by the objects. The participants of the interview also emphasised the presence and importance of visual communication by the museum artefacts suggesting that they have experienced a sense of awe and surprise on their initial encounter with the museum space and its objects which later became engaging for the viewers (Appendix 2). The visual communication of design principles in the context of museum and its objects can mobilize the viewer understanding by acting not only from the perspectives and position of the museum, but it also disseminated the information and significance related to the design patterns to the viewers by clarifying the distinct design elements (Wu, 2023). The communication of the designs of the bronze patterns on the artefacts and objects displayed in the National Museum communicate to the viewers visually the cultural images and values of the nation through the interactivity of the user space of the digital communication platform. The museum allows the viewers to engage with the objects in their digitized form as well as their physical forms where the viewers see and identify the design elements of an object as well as an objects as a whole before reading or listening to any information pertaining to these objects. This ideates the presence of visual communication by the museums which functions through the symbolic meaning promoted by the object. Presenting this idea in the semiotic factor, the museums and the objects act as the signs and symbols in the form of visual texts which act through the framework of denotation and connotation prompting the viewers to interpret the meanings. Then not only the objects, but also the entire museum becomes a mode of visual communication where it acts as the signs and symbols consisting of various signifiers in the form of the objects and artefacts that signify specific meaning to the viewers influenced by the cultural and historical values associated with the objects. Therefore, the museums and the artefacts play a key role in the communicating the cultural and historical information through the visual mode of communication.

## Public engagement through emotional resonance

The findings from the museum case study note that the National Museum of China significantly uses its virtual mode of communication to promote public engagement of the viewers and promote an emotional connection with the sociocultural history and heritage portrayed by the artefacts. The participants of the interview note that the museum products create a sense of recognition and emotional resonance between the viewers and the artefacts that prompt them to relate deeply with the sociocultural context of the history of a country. As noted by Perry et al. (2017), the virtual communication mode of the museum bares the possibilities of physical barriers and thus enhances the scope of transformative and engaging cultural experiences that can provide a significant amount of measurable participatory, emotional, and interactive involvement which is grounded in a user-centred interface within its design paradigms. Applying the semiotic analysis in this context notes that the museums can communicate meanings to the viewers through their virtual space where the viewers can interpret the meanings of the displayed the sociocultural and historical context of the museum objects based on their individual experiences and perceptions. These perceptions of the viewers that influences their interpretation of meanings of the cultural objects are essentially guided by the experiences that the viewers have had from their immediate environment. The interpretation therefore happens contextually where the signified is determined by the sociocultural context of the signifier of the sign which leads to an emotional cognition of the meanings of these cultural bronze objects. These bronze objects then act as a storyteller for the viewers that develop the emotional cognition of the viewers. Such an approach when applied in the context of the various kinds of viewers from various parts of the world with varied social background and intellectual demands such as children and other viewers with, for example, any form of disability, indicates a varied range of emerging meaning as the interpretation happens through the varied experiences of the viewers. For

example, an person with any kind of disability or socially discriminated experience of any form might witness the design motifs of the monstrous as a shortcoming in their identity that is different from others or a person working in the educational industry might view these objects not only as educational tools but also might learn various things from these themselves. This enhances the emotional engagement of the viewers with the objects as the viewers interpret the meanings of these bronze objects and their design patterns such as the Taotie motifs in their individual ways.

### **Promoting educational values for children**

The sociocultural image and identity that the museum artefacts promote for the viewers also has significant educational values for the children as the museums are found to have interactive and engaging interface for the viewers which are known to easily attract the viewers. As the participants note, these museum objects can effectively educate the children about the sociocultural and historical values through these objects which the children can interact with through their mobile devices and navigate through the interactive virtual space of the museum. "Research in the educational area has shown that by using interactive-immersive environments, students could adapt a presentation's pace and sequence to their own cognitive needs and skills, thus allowing them to better comprehend and assimilate the offered knowledge" (Katz & Halpern, 2015, p.777). The educational interpretation that occurs among the viewers in the context of the museum is promoted by the interactive and immersive space created virtually through the augmented and simulated environment of the museum that engages the viewers in the environment. This especially attracts the young children as they get to interact with the museum environment as they are made to feel as if they are physically visiting the museum and engaging with the products due to the simulated environment created through the digitized virtual technology of the museum. This idea, when, analysed through the framework of semiology (semiotic analysis), can indicate that the virtual environment created by the museum also in itself becomes a tool of expressing meanings symbolically thus acting as a sign through which the viewers, especially children, interpret meaning and information. While they engage with their immediate environment within the simulated reality that creates the virtual space of the museum virtually, they also interpret it through their experience of their physical environment as well as the ingrained experience of their usual social and cultural environment. This creates a multifold and multifaceted interpretation by the viewers which guides their understanding of the cultural history and information that the museum artefacts intend to communicate to the viewers. This influences the children even more as it influences their cognitive perception and mould their understanding of the sociocultural values and historical heritage thus promoting the intention of promoting educational knowledge and values among viewers by the museums. Thus, the immersive interactive space of museums aide in educational attainment by the viewers.

## **6.0 CONCLUSION**

### **6.1 Limitations**

The current study is limited in its methodological approach as it performs a qualitative study based on the case study of the National Museum of China and the interviews of seven participants in an ethnographic approach as it lacks the generalisability of the data that could be found from the quantitative studies. The paper presents a detailed observation of the experiences of the people sharing their ideas and perceptions of culture accumulated through museums, however, it remains limited in the scope of data collection which could be avoided through a larger set of research sample.

### **6.2 Future scope of research**

The future studies can build on the ideas of this paper and improve the methodological approach by performing quantitative analysis of data collected from a larger sample set through a closed and structured survey-based questionnaire modelled using Likert Scale evaluation. Further, the future papers can also perform focus group interviews with around ten to twelve focus groups with each

group consisting of four to five participants, grouped based on their commonalities while having a control group based on the data of which the data of the other groups can be compared and analysed. Such approaches can provide a larger set of data and thus help to increase the generalisability of the study findings.

### 6.3 Ethical considerations

The paper remains ethical in its methodological approach as it performs the participant-based research by gaining their informed consent and protects the privacy and individuality of the people by maintaining discretion in communication of the information to the readers of the papers. Prior to the data collection, the participants were informed of the purpose of the data collection and thus were sampled depending on the willingness of the participants. Thus, the paper maintains its ethical approach in conducting the research.

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## **APPENDICES**

### **Appendix 1: Interview questions**

#### **General information**

1. How often do you visit museums?
2. What is your purpose of visiting museums?
3. What kind of artefacts do you most engage with?

#### **Cultural and historical information**

4. What kind of initial response do you usually have when you witness museum artefacts of the historical context?
5. Do you think these museum artefacts create visitor engagement with the museum objects? Do these make you familiar with the kind of artefacts that are usually displayed in museums?
6. Are you familiar with the history of bronze artefacts of Museum? What attracts you the most about bronze artefacts?
7. Do you think the bronze artefacts reflect the cultural values? Which aspects of the bronze patterns do you think are most reflective of the historical and cultural image?
8. What kind of bronze artefacts do you think reflect the history the most? To what extent do you think the design patterns of these bronze artefacts reflect the sociocultural context of those times?

#### **Visual impact and learning**

9. How do you see these bronze patterns of these artefacts? What kind of symbolic meanings do you think these motifs indicate?
10. To what extent do these patterns influence your understanding of history and sociocultural context? Do you find it easier to engage with these artefacts because of these bronze design patterns?
11. How do you think these patterns influence your museum visit experiences?
12. Do you think these patterns have an emotional impact on your perception of history and culture? Can you describe any such example?

#### **Improvement and enhancement of learning engagements**

13. Do you see any scope of improvement in the display and engagement of these products by the museums? What kind of changes do you suggest?
14. How do you think such changes can improve the visitor engagement and sociocultural portrayal of history further through these artefacts?
15. Do you think such an approach can enhance the visual impact of these artefacts and improve the learning experiences of the visitors?



## Appendix 2: Interview Responses

### Respondent 1

1. I visit occasionally. May be three to four times in a year.
2. I like history and I like to learn about historical objects when I visit the museums. It is helpful to know about the culture of the time through the artefacts.
3. I like to engage with historical artefacts like the old Chinese bronze and ceramic products as they reflect the culture of that time very well.
4. Well, initially it is always very pleasing to see these products and feels very wonderful because of the intricate details of the design patterns no matter what kind of materials have been used.
5. Yes, the kind of museums products that are usually displayed for viewing definitely attract me and help me to engage closely with the historical and cultural significance of the products. It helps to learn more about the history of a place and the objects and broadens my cultural awareness.
6. Yes I am somewhat familiar with the bronze artefacts of the museums. I like the intricate patterns of the bronze artefacts and I believe they hold some significant messages about the past.
7. These bronze artefacts definitely reflect some cultural values. From what I have seen so far these artefacts often have the patterns of dragons and phoenixes which reflect the traditional values and cultural identities of China and its historical roots.
8. Some of the ancestral artefacts like the bronze vessels from the Shang dynasty and such as a ding or a bronze taotie mask seem to me to be the most significant bronze artefacts as they reflected the social image of the time they belonged to such as the cultural image, and the wealth and power status of the dynasties.
9. I think the various patterns of these kind of bronze artefacts reflect the various meanings based on the traditional meaning attached to the symbols in the ancient times. It can range from the reflection of the connection of with nature to power, spirituality, and the connection with the ancestors.
10. I have learned a lot from these bronze design patterns of museum relics. The detailed designs paired with the information that the museums provide help to understand the cultural practices and the kind of social preferences of the time. The intricacies of the design patterns also reflect the status of wealth and ideals of the people of the time. It presents visual context to the sociocultural identities through these artefacts.
11. These always motivate me to revisit the museums in search of newer artefacts that can present in-depth knowledge on the cultural past. The designs of the bronze artefacts inform a lot about the people who owned the pieces and their life experiences.
12. I do feel that these historical pieces can emotionally connect well with the viewers because it reflects a shared past and people get to know about their ancestors and their everyday practices.
13. I think museums can definitely improve more if they improve their virtual interactive UI more so that people from all parts of the world can see these. Digital archives can also help to store detailed information about these pieces without having to worry about the lack of availability physical space.
14. These changes can make the artefact accessible to people from all over the world. Any person staying anywhere can see these and learn the information. Even children can gain knowledge as these days mobile phones and computers ave become a commodity and everyone has it.
15. Yes, I think such approaches can enhance the visual impact because then the museums can have high definition images stored in their virtual space and the viewers can virtually interact

with the images and videos and can zoom in and navigate the way they want using the technological aides.

## Respondent 2

1. I visit museums but not often.
2. I usually visit museums when I am visiting some historical place because museums then help to gain knowledge about the history of that place.
3. I like to read about and view the ancient artefacts like the everyday use objects because these objects reflect a lot about the people of a specific region and their habits and practices.
4. These objects in the museums definitely attract me as I am always very fascinated.
5. Yes museums are always attractive for the visitors. As I visit museums I see other people from all age groups and also people with various sociocultural backgrounds so they even have different language preferences but the interactive platforms of the museums help to mitigate any kind of barriers through their communication mode.
6. Although not very familiar, but I do know that the bronze period of China was close to the Shang dynasty and it reflected the lives and practices of the people. The patterns on these bronze products are really beautiful.
7. I think the bronze artefacts of the museums show how the people live in those times, the design patterns show the experiences of the people or some major events in their lives I think. So these are really informative in learning about history.
8. I do not have much idea but I think the everyday use objects that were cast in bronze like the utensils or the cauldrons hold the most value as people interacted with those the most so they also hold the highest cultural value.
9. I think the design patterns are symbolic because they can reflect some sort of meaning for the people.
10. These patterns actually help a lot to learn about the history and the cultural values of the time.
11. I think one can learn a lot from these artefacts as these can provide the information in various contexts and settings making it a multilayered learning.
12. Yes they do create a connection with the history so it becomes closely connected to the experiences of the current day and the past.
13. Museums can definitely improve by engaging with people on a large scale by catering to the remote visitors. They need to improve their online platforms so that people can learn even more.
14. These changes can help to reach to the global audience. So the museums can gain a lot more recognition.
15. Yes the museums can definitely improve the visual impact as we always first look at the objects before reading any information about them, especially for the children.

**Respondent 3**

1. I visit museums rarely.
2. Only when I need to learn something about the information related to the designs of the historical objects, I visit museums.
3. The images of the ancient figures as well as the artefacts I engage with often.
4. Museums are very interesting as you can learn a lot from them.
5. Yes, I think the museums are really helpful especially for children as they can look at the relics and learn about them.
6. I am, as I like to learn about history. The bronze objects can tell stories about the people and the times so I like that.
7. They promote cultural values, and the design patterns like the masks and the utensils that people would use suggest the history very well, I think.
8. The everyday objects. They can tell the stories, as I mentioned earlier.
9. I think the bronze patterns reflect the cultural past.
10. Museums can help to learn for the people who visit and it is actually easy to interact and learn, especially for people with any kind of language barriers and children.
11. Well I do not visit museums quite often but when I do, I find it beneficial through the various relics because of the sight they hold. Suggests a historical connection.
12. Yes, especially for people having any form of shared past, it definitely creates an emotional connection.
13. Yes museums can greatly improve. Promoting virtual engagement can make it a lot more cost effective and a lot more people can access it then.
14. People from remote locations can visit too so that can improve the global outreach.
15. Yes, it can.

**Respondent 4**

1. Yes I visit sometimes.
2. Nothing significant, but I like to learn about history.
3. I like the ceramic pieces, and also some bronze pieces.
4. I am usually surprised at first and then it starts to sink in when I actually spend some time there.
5. Yes these are very engaging. I can learn about many things.
6. I am not very familiar with bronze but I do find the designs quite attractive.
7. Yes I think they reflect the history and culture. The designs are quite informative I feel, like you can understand meaning from them.
8. The ritual objects, I think, because worshipping the ancestors is a major part of the culture in China, so these can reflect the social standards.
9. They have some symbolic meanings. They can reflect the social status and power.
10. I feel these patterns reflect the social standards quite well. They make it easy to understand the information.
11. These can inform a lot about the history and culture of the times.
12. I am not very sure, but I think one can resonate with the cultural values.
13. They can increase the knowledge exchange by reducing the cultural gaps if they include newer technologies.
14. It can help to enhance the engaging experience.
15. Yes I think they can improve the quality of learning.

**Respondent 5**

1. Yes I do.
2. I like to learn about history and culture.
3. The various artefacts like the silk pieces, ceramics, bronze and other items I like.
4. I am usually awestruck at first.
5. Yes museums can definitely create visitor engagement. Yes they make us familiar with the cultural history.
6. I am not very familiar but I have seen them in museums before.
7. Yes they do. The design motifs like the ancient dragon patterns are very reflective of the culture.
8. I think those that were used for some religious purposes and everyday use can reflect about history and culture the most.
9. These are very symbolic patterns I think because one can then definitely learn a lot from them and interpret the meanings in various ways.
10. They make it easier to engage especially for children as we can learn from them based on our understanding.
11. It motivates me to learn more about the culture.
12. Yes they connect with the culture and history emotionally. It can reflect the imperial life too.
13. Museums can improve their mode of communication. They can use the online modes better. Using AR and AI can be very helpful these days.
14. These changes can motivate the young learners to engage deeply with the museums.
15. Yes.

**Respondent 6**

1. Yes.
2. I like to learn about historical objects when I visit the museums.
3. I like to read about ancient artefacts because these objects can reflect the sociocultural life.
4. Museums are very interesting as you can learn a lot from them.
5. Yes, the kind of museum products that are usually displayed for viewing definitely attract me. It helps to learn more about the history.
6. I am somewhat familiar with the bronze. I like the intricate patterns and the messages they hold about the past.
7. These bronze artefacts definitely reflect some cultural values. They have different patterns showing the traditional values and cultural identities of China.
8. Ancestral artefacts like the bronze vessels seem significant as they reflected the social image of the time they belonged to.
9. The various patterns reflect the various meanings traditionally attached to the symbols in the ancient times. It can show power, and spirituality.
10. The detailed designs help to understand the cultural practices and the kind of social preferences of the time. It presents visual context to the sociocultural identities.
11. They motivate me to revisit the museums. The designs tell about the people and their experiences.
12. Yes, because it reflects a shared past and people get to know about their ancestors and their everyday practices.
13. I think museums can improve their virtual interactivity so that remote people can see these.
14. Children can gain knowledge as these days mobile phones and computers are a commodity and everyone has it.
15. Yes, I agree because then the museums can virtually interact with the viewers and allow them to navigate their way.

**Respondent 7**

1. I visit occasionally. May be three to four times in a year.
2. It is helpful to know about the culture of the time through the artefacts.
3. I like to engage with historical artefacts.
4. Well, it feels very wonderful because of the intricate details of the design patterns.
5. Yes, they attract me and help me to engage closely with the historical and cultural products.
6. Yes I am a little bit familiar with the bronze artefacts of the museums. I like the intricate patterns of the bronze artefacts.
7. These bronze artefacts reflect history and traditions. These reflect the traditional and cultural identities of China and its historical roots.
8. Some of the ancestral objects like the ritualistic ding or a bronze taotie mask. I think they reflect social image of the time.
9. These kind of bronze artefacts reflect the various meanings of the ancient times. It can show spirituality, nature, power, and the ancestral values.
10. Museum relics teach a lot about history and culture. These show wealth and ideals of people. It presents context to sociocultural identities through these artefacts.
11. The museum artefacts encourage me to visit the museums and learn about the cultural past. It helps to learn about people and their life experiences.
12. I think that the historical pieces can connect with the views of the people. It reflects their connection with the history and culture.
13. Museums can improve by including digital archives so that they can store information about people without any physical constraints.
14. These changes can make the museum objects accessible to people globally. Even children can learn easily.
15. Yes, definitely.