The Recovery of Historical Buildings in Post-war Aleppo

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Abstract—Throughout history, wars and armed conflicts have severely impacted cultural heritage, erased collective memories, and left entire populations seemingly non-existent. However, recognizing the significance of cultural heritage is the primary impetus for its subsequent reconstruction. Since the Syrian war outbreak in 2011, Aleppo, one of the world's oldest continuously inhabited urban centers, has suffered significant damage to its historic sites such as shrines, khans, and other architectural treasures due to bombings and clashes. In 2017, a study by the Directorate of Antiquities and Museums in Aleppo revealed that over 70% of the city's historic center was destroyed. As a result, the cultural heritage of Aleppo and its social and symbolic values have been threatened. This represents a huge loss not only to Syria but also to the international community. This paper explores the significant role that collective memories play in shaping a city's identity in the aftermath of war. The research aims to analyze the best approach for intervention during the reconstruction phase, whether it be preservation, restoration, enhancement, or eventual reconstruction by reviewing some international experiences. Furthermore, it explains the current situation of the old city of Aleppo and presents some cultural buildings that have been severely damaged or destroyed during the conflict. The study will compare the essential values of each case study and finally conclude with suggestions about the suitable intervention of different case studies that represent the values mentioned before.

Index Terms—Aleppo, Collective memory, Cultural heritage, Reconstruction.

I. INTRODUCTION

Aleppo was once an economically significant and culturally rich hub that reflected the Syrian identity. However, the Syrian conflict that started in 2011 drastically altered this reality. Aleppo emerged as the most severely devastated city in the country (World Bank Group, 2017). Between 2012 and 2016, archaeological sites in Aleppo were severely targeted regardless of their significant value and partially or entirely

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damaged. The destruction of Aleppo's cultural heritage resulted in social division and substantial economic threat (Abd-Alkarim, 2013). It posed severe losses to the local community's cultural identity and the global community, which paid little attention to these facts.

A few research studies are the only significant initiatives that have been taken to promote an understanding of this heritage's protection. The most relevant initiative is UNESCO's decision in 2013 to declare Aleppo a World Heritage Site in Danger, which means transferring it to the List of World Heritage in Danger, trying through this measure to alert experts (UNITAR, 2015). However, this measure had only symbolic results, without real impact. An additional disaster struck – the earthquake, which occurred on February 6, 2023 (OCHA, 2023). This seismic event has made it even more challenging for the city and its residents to reconstruct, recover, and protect their invaluable cultural heritage for future generations.

This study aims to apply a reconstruction approach to historical buildings in the old city of Aleppo. The ultimate goal is to develop standards and indicators for dealing with historic buildings damaged by wars or armed conflicts by producing results and recommendations aimed at directing the reconstruction of historical buildings in Syria in general and in the old city of Aleppo in particular, to restore the features of the old city and preserve the city's cultural identity.

II. METHODOLOGY

This study delves into the crucial role that collective memories play in shaping the identity of a city, as seen in historical Aleppo. It examines the current state of the heritage through case studies and its comparisons, highlighting the need for a specific approach for each case during the reconstruction phase. This intervention must consider the building's physical condition, history, and values to prevent any damage to the collective memory and identity. In this research, case studies are chosen using the criteria of its history (including its age) and its relevance to Syrian culture, located along the axis between the Umayyad Mosque and the Citadel. The building's damages were assessed from light damage to severe damage in each case study, taking into consideration non-structural damage to partial or total collapse. The intervention approach is considered by analyzing international experiences and using the exposed local values as a reference, namely, their previous use and the number of interventions suffered before.

III. COLLECTIVE MEMORY, IDENTITY, AND CULTURAL HERITAGE

According to Martin Heidegger (1971), the basic principle of human identity is that a person needs tangible elements to confirm his identity and the heritage the built environment represents. It is spiritually connected to the human being, and what is meant is not only the built part but also the unbuilt one. The city's urban voids, such as its streets and squares, in the words of Kostof (1992), are our means to a deeper understanding of the city. In his book Genius Loci, Norberg-Schulz (1980) states that nature invites humans to inhabit it when attractive factors are present, including water, view, or protection.

When people settle in the place, they begin to build and construct. Stability is usually accompanied by giving things meanings and values, and these meanings later turn into culture and heritage (Lynch, 1981). Therefore, the built heritage relates to the people, their habits, and their response to economic, climatic, and social needs. Lynch emphasizes that every city, with its architecture and function and people's values, customs, and beliefs, is only a unique phenomenon (Lynch, 1981).

Concepts regarding cultural heritage and understanding it have changed over the past two decades. Heritage contains material and non-material forms, including hopes, aspirations, emotions, values, interpretations, symbols, and narratives (Barakat, 2005). However, the essential and inclusive component is memory; without memory, everything related to time, continuity, change, and individual and collective identities becomes reduced to being only "old things" that can be collected. The built environment has gone beyond being a dwelling and a sanctuary to become a solid memory and cultural and historical symbolism, with all its forms and expressions (Barakat, 2021).

Within this framework, collective memory plays a pivotal role in shaping how cultural heritage is perceived, interpreted, and transmitted. It imbues historical sites, artifacts, and rituals with meaning, connecting present-day communities to their ancestral past and fostering a sense of continuity. Moreover, collective memory serves as a lens through which cultural heritage is understood, influencing perceptions of identity and belonging. By safeguarding and promoting collective memory, societies can ensure the preservation and appreciation of their identity for future generations.

IV. HISTORIC BACKGROUND

The city's history dates back to at least the third millennium BCE, with archaeological evidence suggesting settlements during the Bronze Age. Over the centuries, Aleppo thrived as a critical center along the ancient trade routes, particularly the Silk Road, connecting the Mediterranean Sea with the lands of Asia and beyond. Its strategic location made it a melting pot of cultures, religions, and ideas. The city began at the height of the citadel, the oldest archaeological witness, dating back to 3800 years; the citadel was the center of power and the sanctuary when the city had an external enemy. Important buildings, such as schools, khans, and bathrooms, gather around the nucleus. These structures witnessed their importance and the role played by the old city (Aboasfour, 2019).

The natural factors that characterize the city's topography have significantly impacted its emergence and continuation. The outline of the city of Aleppo can confirm the validity of this hypothesis; the presence of the city within the basin of the Quiq River, in addition to the plateau built the citadel above, can be considered one of the most critical factors that contributed to the continuity of the city and its revival after all that has been exposed over time of natural disasters in addition to the repeated destruction and burning (Al-Ghazzi, 1992). In Aleppo, the patterns and styles that make up the architectural and urban heritage mix in a unique model in which time and things overlap with the civilizations and antiquities that preceded it. These include Hittite, Hellenistic, Roman, Byzantine, and Ayyubid, residing in the memory in any corner from which we look at this city (UNESCO, 2018).

The area of the old city within the walls is 42 hectares and features tightly packed courtyard houses connected by networks of high-walled alleys. Aleppo's historical significance is deeply ingrained in the collective memory of its inhabitants, which has become integral to its identity. For example, the Great Mosque of Aleppo, dating back to the 8^{th} century, stands as a symbol of the city's enduring religious and architectural heritage. Similarly, the Aleppo Citadel is a reminder of its strategic importance throughout history. To the west of the citadel, it is one of the largest and best-preserved covered bazaars (souqs) in the Middle East, extending for miles through narrow streets. Souqs and khans represent an exceptional reflection of the social, cultural, and economic aspects of what was once one of the wealthiest cities of all humanity (Mobaiyed, 2007).

In the summer of 2012, the city was subjected to the systematic destruction of its historical center to obliterate its identity and cultural value through the ages. Where the fighters were holed up in their old neighborhoods, and their leaders stressed that humans are more important than stone, but people were killed, and the stone destroyed. "More than 70% of the historic center of Aleppo was destroyed" (World Bank Group, 2017) due to the armed conflict in the city, where the sites suffered from the effects of bombing and clashes, which caused severe damage to a large number of historic and public buildings, burned the old markets as well as the exposure of the old city to looting and smuggling of antiquities out of the country.

Terrorist organizations blew up tunnels in the city of Aleppo since the summer of 2012, digging tunnels from areas under their control, blowing them up, or infiltrating them to carry out attacks. They detonated several tunnels around the fortress; the most notable was in May 2014, and another in 2015 caused the collapse of part of the citadel's wall, leading to significant damage in the area around the citadel (UN-Habitat, 2014). Experts and researchers have actively evaluated the extensive impact inflicted on the old town and its cultural heritage. These studies aim to analyze the structural stability of buildings comprehensively, examine the state of archaeological sites, and determine the overall loss of cultural and historical significance. Despite the scars of conflict, Aleppo's architectural legacy is a testament to human resilience. Efforts to preserve and rebuild stand as a testament to the city's unwavering spirit, ensuring that future generations may glimpse the splendor of its storied past amidst the ruins of adversity.

V. CASE STUDIES

Near the Citadel of Aleppo, several prominent buildings along the axis between the Umayyad Mosque and the Citadel were chosen according to their date of construction from the older to the most recent one: Sultaniyah School, Yalbga Bath, Khusrawiyah Mosque and School, The Carlton Hotel, and The New Serail, as they are located within an area that is the symbol of their city and one of the most active areas for the city's residents (Fig. 1). The main square in front of the castle was the scene of many cultural activities and surrounded by cultural cafés, restaurants, and entertainment centers. These buildings collectively represent a harmonious blend of cultural heritage, forming an integral part of the collective memory of Syrians, the city's cultural identity, and historical legacy (Aboasfour, 2019).

Damage is assessed according to the following levels:

- Light damage when the unit has only suffered non-structural damage.
- Medium damage occurs when the building has sustained moderate and more severe non-structural damage.
- Severe damage occurs when a building experiences critical structural damage, making it unstable or even causing a partial or total collapse.

Each case study is presented individually in the following sections:

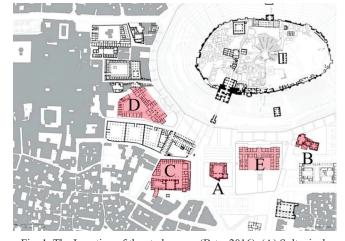


Fig. 1. The Location of the study cases (B-tu, 2016). (A) Sultaniyah school (B) Yalbga bath (C) Khusrawiyah mosque and school (D) The Carlton Hotel (E) The new serial.

A. Sultaniyah School

The Sultaniyah School, also the Royal School, is located toward the door of the Citadel of Aleppo. It is considered one of the most important Islamic monuments, as its construction dates to the Ayyubid era. King Al-Zahir Ghazi started the school construction, only completed in 1223 AD (Fig. 2). The school mosque was a square-shaped room roofed with a distinctive dome. The mosque also contains one of the rare niches regarding the installation and the marble's quality. With many types of stones and marble, it also contained entirely accurate carving works and columns with Corinthian capitals made of marble, standing on both sides of the mihrab (Al-Ghazzi, 1992).

Its physical condition is distorted because the building was bombed in December 2014. The school was destroyed except for remains on the northern side of the courtyard and the minaret as shown in Fig. 3, though they are also heavily ruined (UNITAR, 2015). It is historically significant as it contains the mausoleum of al-Zahir Ghazi, the famous ancient ruler of Aleppo. Architecturally, it was rich in inscriptions and included splendid architectural features representing the Ayyubid style. Consequently, the overall historical loss is categorized as severe and critical.

B. Yalbga Bath

It is considered one of the most important historical sites due to its archeological, structural, artistic, and architectural features. As one of the few Mamluk public baths to have preserved its original function. It was still standing and preserving its original character until the bombing in April 2014. Taking this into consideration, the overall historical loss is categorized as severe (UNITAR, 2015).

It occupies a significant location at the foot of the Citadel's entrance and faces the street with a monumental façade built in polychrome masonry, of the Mamluk style. The façade of the bathroom is decorated with alternating bricks in black and yellow (Figs. 4 and 5 show the facade of the bath before and after the war). The dome of the outer section rests on the shoulders of the Iwan vaults with triangular spherical corners and is decorated with floral motifs inscribed in red and blue. The floor of the inner section is paved with small alternating stones in black and yellow in coordinated geometric styles (Al-Ghazzi, 1992).

C. Khusrawiyah Mosque and School

The Khusrawiyah complex, designed by Mimar Sinan, was constructed in 1544 during the Ottoman reign. It was the first school in Aleppo, Syria, known as the religious secondary, and it was described as Azhar of Aleppo. It stood near the citadel to the west across its ring road (Al-Ghazzi, 1992). However, in 2014, the entire complex, except for the northern entrance, was destroyed during the Battle of Aleppo. The central mosque within the complex suffered extensive damage, causing its collapse and leaving behind a sizable crater (UNITAR, 2015).

The Al-Khusrawiyah complex in Aleppo has significant historical significance as it was the first example of Ottoman

architecture in the city. This complex introduced a new architectural and urban concept to Aleppo by blending Ottoman design principles with local building traditions and materials as shown in Fig. 6. The mosque's grand portal features two marble columns with engravings, a door under a dome, and a patterned decoration stone on each side. The ceramic tiles that adorn the windows, the mihrab (altar), and the pulpit within the prayer hall are examples of this fusion (Al-Ghazzi, 1992). From Fig. 7 it is essential to note that the overall loss of historical significance associated with the Khusrawiyah complex is severe and critical.

D. The Carlton Hotel

The construction of the hotel building, initially known as the Strangers Hospital, commenced in 1819 and spanned 48 years, culminating in its completion in 1897. In 1892, it was the seat of the municipality. The facility's inauguration officially took place in 1900 under the auspices of Governor Jamil Pasha. The primary purpose of the establishment was to provide medical treatment for poor people and strangers, and its establishment was made possible through subsidies and contributions from various benefactors (Al-Ghazzi, 1992). The building was transformed into the National Hospital, comprising 32 rooms, two spacious residences, two elongated salons, and a pharmacy. In 1988, it underwent further conversion into a health institute before being repurposed as a hotel (Fig. 8), capitalizing on its exceptional location and captivating view near the Aleppo Citadel (Al-Ghazzi, 1992). Arches, arcades, and a spacious lobby characterize the Ottoman building of the Carlton Hotel. It is considered one of the preeminent archaeological highlights in Aleppo. However as shown in Fig. 9, the hotel is currently suffering severe deterioration due to two bombing incidents in February 2014 and May 2014 (UNITAR, 2015).

E. The New Serail

In constructing the new serail, the concept of building a novel government edifice traces its origins back to the latter stages of the Ottoman era. Nonetheless, the construction process encountered interruptions and was recommenced in 1928 after establishing the State of Syria during the period of the French Mandate. On 15 April 1933, the New Serail was officially inaugurated, assuming the role of the customary headquarters for the governor and mayor of the city. It served as the governmental seat until 2008 when the new headquarters of the Aleppo City Council was inaugurated (Fig. 10). In 2011, the Serail underwent a renovation to transform it into a hotel. Positioned south of the Citadel and east of its primary entrance, the building featured a U-shaped design, encompassing three floors and a basement. Its central area comprises a spacious atrium flanked by rooms on both sides and a sizable garden to the south (Al-Ghazzi, 1992).

Between 2014 and 2015, the site witnessed complete structure demolition. The central section and the entire eastern wing suffered irreparable damage due to the excavation of a tunnel beneath the building, followed by the strategic placement of explosives, resulting in the formation of a substantial crater (UNITAR, 2015). Considering the historical significance of the new serail as the established above for the city's governor and mayor since the nascent years of Syria, coupled with its noteworthy contribution to the local landscape of modern architectural expression, the loss incurred is deemed severe and critical (Fig. 11).

VI. RESULTS AND DISCUSSION

A. The Value and Importance of Studied Cases

The process of nominating buildings for preservation and reconstruction in Aleppo is based on previously specified criteria. These criteria have been classified into variable values such as architectural, aesthetic, historical, religious, and political. The importance of these values varies depending on their impact on the collective memory of the people of Aleppo. In addition, there are fixed values such as the building's age, location, uniqueness, and physical condition. These values can be compared (Table I), to provide a nuanced understanding of the diverse values of different structures. This comparison can help prioritize restoration and reconstruction efforts. Decision makers can then make choices based on the distinct values a building carries and its physical condition. This approach ensures that resources are allocated to preserve and restore structures that hold tremendous significance for Syria's cultural heritage.

B. Intervention Approaches

From the several reconstruction approaches followed in destroyed cities worldwide, some were successful. Still, unfortunately, some results have caused an even more significant loss of the city's people and cultural heritage (Stanley-Price, 2009). However, each city adopts a unique reconstruction strategy to restore its prosperity and ensure its survival. For Aleppo, implementing targeted approaches inspired by international experiences and developing innovative solutions tailored to its specific context could prove highly effective.

The first approach aims to use the building as a witness to the events, and the lack of change is an approach that focuses on preserving the symbolic value of a building rather than its physical importance. This approach aims to maintain the building's condition as it serves as a witness to historic events. It preserves the building as a part of the city's memory, highlighting the horrors of war and their impact on human and historical values (Stanley-Price, 2009). This approach is suitable for buildings with special significance and a strong reason for preservation. Due to the decrease in land area and the increase in population density, these buildings are chosen by experts from various fields.

The case of the A-Dome in Hiroshima exemplifies this strategy, preserving the city's main ruins amidst a new park designed to engage the experience and understanding of the past. The A-Dome was one of the few structures left standing near the epicenter of the atomic bomb blast on August 6, 1945. In the aftermath of the bombing, there were debates about whether to demolish the A-Dome as a painful relic of the past or preserve it as a symbol of the horrors of



Fig. 2. Sultaniyah school before the war (UNESCO, 2018b).



Fig. 6. Khusrawiyah before the war (UNESCO, 2018b).



Fig. 3. Sultaniyah School after the war. Source: Author.



Fig. 7. Khusrawiyah after the war (UNESCO, 2018b).



Fig. 4. Yalbga Bath before the war (UNESCO, 2018b).



Fig. 8. The Carlton Hotel before the war (Aboasfour, 2019).



Fig. 5. Yalbga Bath after the war. Source:Author.



Fig. 9. The Carlton Hotel after the war (Aboasfour, 2019).

war. Ultimately, the decision was made to leave the building ruins standing. Over the decades, the A-Dome has become a global symbol of peace and reconciliation, attracting visitors worldwide who come to pay their respects and reflect on the consequences of nuclear warfare (Ide, 2007).

Other approaches of restoring/reconstructing the old are expected to be considered more, such as rebuilding the damaged historical building or part of it as it was in the past. These aspire to transcend the tragedy of the past by restoring/ reconstructing the symbols of the past to preserve their existence. The restoration/reconstruction of the destroyed historical architecture keeps the memory and identity of the place (Al Aloul, 2007). Despite the difficulty of implementing this approach, it is sometimes considered reasonably necessary. Primarily, this type of reconstruction requires prior, accurate, and comprehensive documentation of the condition and form of the building before destruction; such documentation can be challenging and complicated if the building is not adequately documented before its destruction. Furthermore, reconstructing a historical building to its original form often requires skilled artisans and craftsmen capable of replicating traditional building techniques and materials. Finding experts with the necessary expertise can be difficult, especially for buildings with unique architectural features or historical significance. Finally, Restoring or reconstructing historical buildings can be prohibitively expensive and challenging.

Consequently, this approach is mainly concentrated in historical areas and buildings with a particular symbolic value whose presence is essential in the community's memory and identity. This approach aspires to overcome the tragedy of the past by rebuilding the symbols of the past. For example, the Church of Our Lady (Frauenkirche) in Dresden, Germany, represents an attempt to reconstruct the lost heritage and reformulate the culture of the past destroyed during World War II. Reduced to rubble during the bombing of Dresden, the church's restoration, initiated in the 1990s, painstakingly recreated its Baroque splendor using original plans, salvaged materials, and skilled craftsmanship. Today, it serves as a poignant reminder of Dresden's ability to overcome the scars of war and unite to preserve cultural heritage for future generations (Jäger and Burkert, 2001).

Another solution, an evolving approach that mixes the old and the new, aims to blend the identity and heritage of the old with the addition of the imprint of the contemporary time and the addition of an appropriate development that illustrates the development taking place in architecture without affecting the actual identity and memory of the site (Al Aloul, 2007). This approach solves the question by developing thoughts without abandoning the city's local identity by pairing the old building with a new design as a complementary part to keep pace with the spirit of the times and suit the rapid and urgent needs of the development and the difficulty of using old methods and patterns.

For example, the famous Berlin, Germany Reichstag case represents this approach. The Reichstag building holds significant historical and political importance. It served as the seat of the German Parliament until it was severely damaged by fire in 1933. After World War II, the building stood



Fig. 10. The New Serail before the war (Aboasfour, 2019).



Fig. 11. The New Serail after the war (Aboasfour, 2019).

abandoned and in ruins within the divided city of Berlin. However, following German reunification in 1990, plans were made to restore and renovate the Reichstag as the seat of the German Parliament. In addition to the original monument, new technologies and materials (a new dome made of glass) were added while adding symbolic values. The iconic glass dome, designed by architect Norman Foster, symbolizes transparency and democracy and offers panoramic views of the city. Today, the Reichstag symbolizes Germany's democracy and commitment to openness and transparency (Filler, 2007).

International experience may contribute to Aleppo's cultural heritage after the conflict. It is urgent to discuss it as soon as possible with the global community, decide on the best way to help local experts and decision makers how to deal with the reconstruction phase after the conflict ends, choose appropriate approaches for reconstructing the affected buildings, respecting the old and ensuring that the resulting structure is a new significant point that highlights the historical value of the surrounding area. Therefore, intervention approaches in the old city at the level of a single building include the approach of preserving the demolished building as an archaeological landmark and a memorial to the devastation caused by war, the approach of reconstruction of an exact copy of ancient buildings, and finally, the approach of combining elements of the original building with modern impressions.

Referring to the case studies, all are severely or entirely damaged, and all of them are ancient, too. However, Sultaniyah School is the oldest among them, followed by Yalbga Bath and Khusrawiyah Mosque. All cases are essential regarding the

VALUES COMPARISON BEI WEEN THE STUDIED BUILDINGS					
Name of building	Sultaniyah school	Yalbga bath	Khusrawiyah mosque and school	Carlton Hotel	The new serail
Building age	The founder of this school is King Al-Zaher Ghazi. It was completed in the period after his death in 1223	Created in the Mamluk era in 1495 by Prince Yelbga Naciri	It was designed by Mimar Sinan. Its construction was completed in 1544	The construction was completed in 1897	The construction was suspended for the duration of the French mandate until it was completed in 1933
Architectural and aesthetic values	It was rich in inscriptions and included splendid architectural features representing the Ayyubid style	The building's facades alternate with black and yellow panels typical of the Mamluk style	It was the first example of the Ottoman architectural style in the city	It is built in the Ottoman style characterized by arches and construction methods with a wide hallway and lobby	It is built in the Ottoman style. Its facades are inspired by the defensive balconies in the facing castle towers
Historical value	It contains the mausoleum of al-Zahir Ghazi	One of few Mamluk baths that preserved its function	The first example of Ottoman architecture in the city	The first public hospital in Aleppo to help the poor and strangers	One of few well-preserved Ottoman government buildings
Religious value	Several rooms around the central courtyard serve as a religious school		Known as the religious secondary (Azhar of Aleppo)		
Uniqueness and scarcity	An important religious landmark representing the Ayyubid era	It is one of the unique baths that were known in Aleppo	The first mosque influenced by the Byzantine style of Istanbul old churches	The hospital was built from donor funds	It combined traditional aesthetics with new engineering methods
Political value				In 1892 it was the seat of the municipality	It included the headquarters of the Governor of Aleppo

TABLE I Values Comparison between the Studied Buildings

values discussed earlier in Table I, which range across all the buildings. Sultaniyah School, Yalbga Bath, and Khusrawiyah Mosque and School are religious and unique buildings whose functions have not and will not change. According to historical plans, they should be reconstructed as before, using original building materials as much as possible. The Carlton Hotel and the new serial can be assumed to be of different use from the original one. In this case, one can follow a different approach to reconstruction operations. In both cases, the resulting building is not expected to be completely similar to the old building.

VII. CONCLUSION

The study delves into the reality of several historical buildings within Aleppo's old city, exploring potential approaches to preserving them as memory agents. The research shows that the criteria used to analyze case studies effectively determine the priorities and intervention principles for the listed buildings while considering international references. On the one hand, most historical buildings, particularly those still serving their original purpose, should be restored first. On the other hand, buildings that had already lost their original use could be expected to change their use once more and face a mix or contemporary intervention approach if the new additions represent new values for the ancient building and maintain its original values and memory. Therefore, developing a comprehensive and strategic reconstruction approach for Aleppo's historical buildings is paramount. This approach must consider historical use and current conditions, integrating traditional and contemporary methods. Furthermore, interdisciplinary research and discussions should strike a

balance between preserving collective memories and meeting modern functional needs, ensuring a harmonious fusion of old and new that honors and sustains cultural heritage for future generations.

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