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ARCHITECTURAL AND URBAN HERITAGE IN THE DIGITAL AGE: DILEMMAS OF AUTHENTICITY, ORIGINALITY AND REPRODUCTION

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Abstract

The archaeology of our built heritage is centred on the understanding of human experiences, rituals and social history that add meaningful narratives to physical fabric, structures and artefacts. The meaning of the building in the collective memory is intrinsically attached to the process by which it was produced and the manner with which it endured a series of critical socio-cultural change. Whilst we cannot live in the past, engaging with historic buildings or walking through traditional urban fabric and alleyways becomes an essential asset of the contemporary urban experience. This paper interrogates the dilemmas of authenticity, originality and legitimacy of the preservation of architectural and urban heritage through digital and virtual technologies. It addresses examples of historic buildings that have changed character, functions or got destroyed during times of wars and conflict. With advanced techniques of recording historic buildings through digital and virtual environments taking a leading role in modern preservation, integrating architectural heritage into the creative economy and income generating activities is critical to their survival in the digital age.

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INTRODUCTION:
ARCHITECTURAL AND URBAN HERITAGE: WHY DO WE CARE

> *'The reality and reliability of the human world rests primarily on the fact that we are surrounded by things more permanent than the activity by which they were produced.'*
>
> Hanna Arendt (1958), *The Human Condition*.

At Café Sibylle, a quiet ground floor coffee shop on Karl-Marx-Allee, a socialist boulevard built by the GDR between 1952 and 1960 in Berlin Friedrichshain and Mitte, there is a locally-curated gallery on the memory of the comprehensive reconstruction the Allee went through during mid Twentieth Century. Sitting in the former communist East Berlin's neighbourhood, originally named Stalin-Allee, the café offers an insight of the decor that was retro Eastern Bloc during 1950s, a present-day microcosm of communist ideology of shaping the urban landscape at the height of the Cold War. The intriguingly curated collection of artefacts and remnants of the reconstruction of the area offers rare narratives of the scale of destruction this part of the city suffered. Such peripheral collection explicitly showcases a glaring view of how ideology and politics take aim at architectural and urban heritage as powerful tool to shape not the landscape of cities, but the culture of its people and the way they practice everyday life (Figure 1). From the stark contrast of East and West Berlin, the Berlin Wall Memorials or the traces of World War II on its historic buildings, Berlin is a living exhibition and repository of memory not only for Germany but also for Europe and the Twentieth Century at large (Figure 2). Its destruction during the war helped only to enable a new layer of innovation and creativity.

The archaeology of our built heritage is centred on the understanding of human experiences, history and narratives through historic fabric, structures and remains (Smith, 2006). The meaning of the building in the collective memory is intrinsically attached to the process by which it was produced and the manner with which it endured a series of critical socio-cultural change, as claimed by Hannah Arendt, above. Whilst we cannot live in history or preserve the past, engaging with historic buildings or walking through traditional urban fabric and alleyways becomes an essential asset of the contemporary urban experience.

But, this experience of destruction and division was not unique to Berlin, though, a city that has experienced significant ideological and philosophical shifts and most ambitious regeneration projects of 19th and 20th century Europe. In fact, architecture and urban heritage have always been a tactical target during conflicts and at war zones driven by enforcing cultural change, and engineered attempts of the erasure of urban memory. Robert Bevan in his seminal book and subsequent film, *The Destruction of Memory: Architecture at War* (2006) asserts that the destruction of architectural and iconic buildings is a tactic often conducted well away from the front line. Its aim is the pursuit of ethnic or cultural cleansing by other means, of the rewriting of history in the interests of a victor reinforcing his conquests. The systematic destruction of mosques by the Serb army in the Srebrenica genocide of July 1995, where more than 8,000 Muslim Bosnians were massacred, was an erasure tactic aimed to support the official rhetoric that denied Muslims' prior existence and livelihood in the region.

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Figure 1. The Archaeology of Stalinallee (Karl-Marx-Allee) as displayed in Café Sibylle, Berlin, 2014 (Source: Author).

Figure 2. Berlin Wall Memorial & Display at Potsdamer Platz, Berlin. 2014 (Source: Author).

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Urban Heritage, on the other hand, could have negative connotations to the past. Madanipour (2010) argued that the spatial manifestation of social polarisation is evident in physical inequalities of an urban space that was inherited across centuries; where preferential or strict accessibility is its most obvious form (Madanipour, 2010). Peace line walls as well as insular communities in Derry/Londonderry highlight the impact of insular forms of urban heritage to provoke imaginable fear about the other community and reducing the desire for intercommunity engagement (Goldie and Brid, 2010; Gaffikin, 2008). The peace lines and gates between communities are the most powerful tools of division, by the very fact of their existence. Such mysterious embodiments of memory within buildings and spaces where bad events took place, however, cannot magically embody memories by virtue of their existence, without continuous and sustainable performance of acts, rituals and normative social behaviour (Abdelmonem, 2016). When attached to buildings and/or structures, myths become powerful tools of collective memory of the group (Connerton, 1989). By their very existence in the physical fabric, buildings of a horrible past become signifiers of the present and to a large extent determine future attitudes. Architecture in that sense becomes the most durable part of this fabric through objects of remembrance, but is paradoxical and contested when it engages with collective memory (Kuechler and Forty, 1999).

By the same token, the preservation of architectural and urban heritage is a practice and investment in cultural survival. (Holod, 1980) In such context, architecture takes on a totemic quality: a mosque, a synagogue or a church are no more religious buildings than targets to its enemies, when a community is marked for erasure of its memory. Muslims have taken over a Christian church to build the Great Mosque of Cordoba in Spain (8th – 10th Centuries) by the Umayyads, which was subsequently converted back into a Catholic Cathedral by King Charles V in 1523 (Khan, 2015). Similarly, Constantine's Hagia Sophia Basilica in Istanbul was built in 360 CE and used as a church until it was converted into a mosque in 1453 until today. Politicians have long acknowledged that the built heritage has far much value and meaning than its very existence as physical traces. It is the fabric of everyday life.

As preservation, conservation as well as destruction are essentially political endeavour, architectural and urban heritage remains that inevitable cache of cultural memory of society that legitimises its existence (Bevan, 2006). Hence places of meanings, especially those with relevance to tolerance and multiculturalism remain high targets for oblivion with deliberate intent during acts of wars, religious extremism and ethnic conflicts (Kamel-Ahmed, 2015). Recent deliberate destruction of Buddhas of Bamiyan in Afghanistan in 2001, (dated back to 6th) or Palmyra Arch in Syria by Islamic State (2015), aimed at cultural, religious symbols and heritage sites designed to alter the historical narratives of the region and make it more difficult to validate for future generations (Khan, 2015).

PRESERVING ARCHITECTURAL HERITAGE IN THE DIGITAL AGE

> '*It is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture*'.
>
> John Ruskin (1849), *The Seven Lamps of Architecture*

In his manifesto for the preservation of architectural heritage, John Ruskin, 19th Century pioneering theorist, underlined the difference between restoration and repair as two distinct processes. He believed nothing from the present should disturb the remnants of the past and

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that a building is born, lives and then, dies. For him, originality must be sought as the sole identity of the building with real layers of its fabric as it ages. The craft of preservation and repair of building is like surgical intervention in which the original must remain distinct (Ruskin, 1849). Following decades of architectural malpractice towards architectural heritage during the Twentieth Century, successful interventions and design projects over the past decade have returned to Ruskin's principles of authenticity and originality. From David Chipperfield's Neues Museum to Norman Foster's Reichstag Building Renovation, British architects have been able to introduce modern interventions that contribute rather than violate the authenticity of the past (Foster, 2000; Shcultz, 2000; Nezhad et al 2015). While the former has inclined to keep the traces and holes of WWII bomb shells and bullets clearly visible on the entrance hall columns, allowing the building's own heritage of destruction to be integrated into the new design of newly constructed brick walls and timber roof, the latter's Glass Dome over the Reichstag did not make any attempt to hide or replace the story behind the original structure.

Both projects resemble how narratives of architectural heritage can shape modern and contemporary practice that in return shapes our present-day memories and identity. Conservation, in this sense, is equally about the collective knowledge of societies, their origins and habits that are learned through remnants of buildings and objects (Abdullahi & Embi, 2015). With conservation comes long-term planning of occupancy, maintenance and feasibility for the long term economic planning. European conservation policies developed the belief that a vacant property is detrimental to the vitality of town centres and if not carefully planned or made economically feasible, there are more likely to grow derelict and negatively impact its surrounding environment. Conserving heritage, hence, is no longer a technical process by which architects, archaeologists and engineers embark on the mission of repairing or restoring historic artefacts, buildings of spaces. Heritage buildings must be part of active and successful business and income-generating environment that keeps buildings occupied, functional and subsequently well maintained by its own occupants, owners or enterprises. European legislations have indicated repeatedly the essential need for social capital and economic return to be part of heritage conservation projects.

But, as we have seen over the past few years, iconic heritage is increasingly threatened by terror, climate change, rampant commercialisation, and overexploitation by tourism; and in some cases, by significant disinvestment. Lack of responsible planning, maintenance and preservation strategies have equally caused unmitigated dereliction and irreversible damage to many heritage sites in the developing world. In many instances, heritage sites have become either inaccessible to tourists or visitors, due to security risks, others are isolated in remote locations that is hard to reach. New modes of preservation and engagement with heritage have become essential. With the increasing rate of destruction of heritage sites, such as Palmyra in Syria, digital preservation of historic artefacts and cultural heritage has become an international priority (Denker, 2016).

Strategies, practices and technologies that can protect and sustain these places in other forms of reproduction such as digital modelling, immersive virtual and augmented reality, cinematography and Audio-visual archives have been key aspects of cultural heritage preservation effort over the past decade. As digital archaeology has evolved during 1980s and 1990s, it was only during 2000s when all recorded data about architectural and urban history of our cities have been effectively process used to produce 3D models, manual or computer generated, allowing public users from having access to visible and reproduced models in electronic and online format.

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For effective engagement with learning experiences and studies of ancient cultures or to grasp the implications of their evidence, it has become essential to introduce an interactive approach in 3D platforms to engage with its architectural evidence and urban fabric. Due to advanced computer hardware and high-end graphics cards, trends in virtual reality applications are motivated towards the use of immersive technology for real-time interaction with high detail. This industry has sprung into reproduction of historic buildings and environments over the past two decades, through pioneering projects such as Rome Reborn V2, thanks to the breakthrough in the development of virtual reality hardware and associated software applications.

Virtual heritage, in this sense, is considered an important application of state-of-the-art technologies, giving scope for interdisciplinary applications for adverse fields. Virtual reality is sometimes referred to as immersive multimedia, as a computer-simulated environment that can simulate physical presence in places in the real world. Virtual, visual and digital display of lost heritage has inherent values in the education process for students in both pre-university as well as graduate education. For architecture and archaeological students, in particular, it virtually transfers them to another world and makes them feel as if they were walking at the site with its details in the past. For conservators, historians and archaeologists, it helps develop a rich library and digital archive of details, information and data necessary in restoring historical sites, as well as heritage preservation where the 3D virtual models contain accurate data and help for restoration.

The use of digital culture in architectural and urban heritage conservation has never been more profound than in Berlin in Germany and Barcelona in Spain, where annually; there are more than 400 events that used different strategies, technologies and display, central to which is the economic feasibility of cultural heritage and historic buildings as income generating asset. Barcelona is world-known for being a cultural city with a unique variety of cultural heritage. During a five-year period, Barcelona, Brussels and Berlin had enlarged their cultural attractions with events driven by digital applications, technologies and displays. Iconic landmarks were the receiving end of colourful projections during the Festival of Lights (Figures 3 & 4).

With such growing interest, applications and public awareness of technological applications for heritage preservation, it was timely to develop a special issue on aspects, challenges and contexts of heritage preservation in the digital age. Architects, planners, archaeologists, historians and artists are key players in this arena as much as technologies, computer scientists and media visualisation experts. This special issue of the International Journal of Architectural Research aims to look at the growing trends of heritage preservation utilising new modes of digitally driven modes of documentation, visualisation and display. It builds on a previous Special Issue on architectural conservation (Archnet-IJAR, 2015, Vol. 9, No.2) that looked at strategies of conservation in the contemporary urban landscape (Khalaf, 2015; Roders and Grigolon, 2015).

The papers included into this Special Issue have emerged from Virtual Heritage Cairo (VHC) Network's International Conference, "*Sustaining Heritage in the Digital Age: Towards Virtual Environments for Middle East's Cultural Heritage*", that took place on 20-21 February at the National Museum of Egyptian Civilisation, Cairo, Egypt. Papers included in this issue have succeeded to advance our understanding of the changing landscape of architectural and urban preservation in recent decades. Much of this understanding is grounded into the growing digital and virtual domains of enquiry, research, and application in sustainable

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heritage preservation. The issue is designed to start with theoretical and conceptual frameworks, then progresses into empirical research and case study analysis, and conclude with papers that focus on aspects of authenticity, identity and resilience in challenging and conflict-prone contexts.

Fig. 3 Music Festival at The Grand Place, Brussels Historic Centre, 2015 (Source: Author).

Figure. 4 Festival of Light, Digital Projection on the Iconic Berlin Cathedral, Museums Island, Berlin, 2013 (Source: Author).

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The Special Issue starts with Patrizia Riganti's paper, "*Smart Cities and Heritage Conservation: Developing a Smartheritage Agenda for Sustainable Inclusive Communities*" (Riganti, 2017), that discusses advancements in Information Communication Technologies (ICT) for cultural heritage preservation highlighting the potential of virtual environments to assess the impacts of heritage policies on urban development while using virtual globes and crowdsourcing to support the participatory valuation and management of cultural heritage assets. My co-authored paper: "*Virtual Platforms for Heritage Preservation in the Middle East: The Case of Medieval Cairo*" (Abdelmonem et al, 2017), reports on a research process to investigate and incorporate a cultural-feed into digital platforms of Virtual Heritage. It analyses current practices and projects of the virtual heritage technologies and reports on fieldwork that took place in Islamic Cairo with Five Start-Up entrepreneurs. Mohamed Khalil's paper, "*Talent Management as a Novel Approach for Developing Innovative Solutions for Egyptian Heritage Communities Development*" (Khalil et al, 2017), on the other hand, interrogates aspects of intangible heritage such as stories, memories and traditions of people. The paper aims to investigate the role of Talent Management (TM) as a novel approach for developing innovative solutions for Egyptian heritage communities' development.

Beyond the theoretical discourse and conceptual frameworks, other papers have tackled practical, yet novel solutions to document, preserve and engage with historic buildings and traditional urban fabric. Stuart Burch's paper, "*A Virtual Oasis: Trafalgar Square's Arch of Palmyra*" (Burch, 2017), interrogates the destruction of the Arch of Palmyra in Syria in 2015 and its temporary reconstruction a year later in London's Trafalgar Square. It scrutinizes the processes involved in the artistic production of public memorials and art's commemorative function. In their paper: "*Sustained Liveability: A framework beyond energy-conscious Building Conservation of Market Halls* "Neveen Hamza and colleagues argue that sustainable conservation goes beyond a physical characteristics of building fabric conservation or the addition of renewable energy resources (Hamza et al, 2017). They postulate and validate the notion that market halls offer the chance to enable the markets to become sustainable local economies that are creative and inventive.

Such inventive handling of heritage was pushed even further in Eleanor Ramsey's paper, "*Virtual Wolverhampton: Recreating the Historic City in Virtual Reality*" (Ramsey, 2017). According to Ramsey, heritage buildings are part of a dynamic and changing environment, and their place within their original landscape is not always visible. Hence, she discusses a project based on Wolverhampton that aims to create immersive and 360° experiences of the historic city that allows the user or viewer to explore how the city might have been in the past from a 'first person' perspective. Gehan Selim's paper on "*Contested Heritage: an analysis of the physical transformation of Derry/Londonderry's siege monument*" (Selim et al, 2017), has analysed the socio-cultural impact of built form and physical segregation infused by religious conflict. Selim's work offers an understanding of the spatial relationships between enclaves and the siege monument during key moments of conflict and political change in Northern Ireland.

Mohamed Soliman's paper: "*Virtual Reality and the Islamic Water System in Cairo: Challenges and Methods*" (Soliman, 2017), analysed tangibles and intangibles of the water system using the virtual reality application. These historic processes by which the Muslim Rulers in Egypt have used to attract attention to water projects have been used to develop efficient water systems. Khairi Abdulla's Paper, "*Walkability in Historic Urban Spaces: Testing the Safety and Security in Martyrs' Square in Tripoli*" (Abdulla et al, 2017),

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investigates the effectiveness of "walkability" in traditional Libyan urban spaces and analyses the relationship between walking, safety and security environment and its impacts on heritage site of Tripoli city centre. Heba Aggour's paper entitled "*Virtual Reality: Towards Preserving Alexandria Heritage by Raising Awareness of the Locals*" (Aggour, 2017), analyses the growing destruction of historic buildings to accommodate the new high-rise residential buildings done by the construction investment firms. Mohamed Nabil Arafa's Paper, "*ACHILLES as a Marketing Tool for Virtual Heritage Applications*" (Arafa, 2017), focus on Virtual Reality technology as a powerful tool to communicate architectural and urban heritage, values stranger visitors and tourists. The need for tourism to become virtual becomes more urgent than ever before.

In addition to the above papers, the Special Issue includes a distinct group of papers that offer insights into the impact of socio-cultural and political contexts on the identity and characteristics of architectural heritage. The papers address unique contexts and societies in Bosnia and Herzegovina, Iran, and Kazakhstan. These papers have allowed this issue to be more global in coverage and diverse in content. In their paper, "*Modernist Architecture, Conflict, Heritage and Resilience: The Case of the Historical Museum of Bosnia and Herzegovina*" Selma Harrington et al, 2017 introduced a research into symbiotic elements of architecture and public function of the Museum of Bosnia and the impact of conflict on its survival, resilience and continuity of use (Harrington et al, 2017). Akmaral Yussupova's paper on "*Ornamental Art and Symbolism: Activators of Historical Regeneration for Kazakhstan's Landscape Architecture*" (Yussupova et al, 2017), explores different ways of implementing symbolic ornaments in landscape architecture. It collects historical information on the semiotics of Kazakh ornaments and presents outcomes of field studies that place emphasis on the cultural tradition of the native people in Eurasia. Finally, Parastoo Eshrati's paper, "*Evaluation of Authenticity on the Basis of the Nara Grid in Adaptive Reuse of Manochehri Historical House Kashan, Iran*" (Eshrati et al, 2017), investigates authenticity in the adaptive reuse of Manouchehri House in Kashan and also interrogates the shifts from top-down to a bottom-up approach in the field of cultural heritage.

The depth and breadth of the discussions within the papers of this issue demonstrate various possibilities for *Sustaining Heritage in the Digital Age with a focus on the greater Middle East*. In essence, they offer insights toward advanced understandings of the ever-changing landscape of contemporary architectural and urban heritages. While the majority of the contributions react to the growing digital and virtual domains of enquiry, research, and application in sustainable heritage preservation, issues relevant to authenticity, meaning, symbolism, identity, sustainability, and resilience remain integral components for future discourse on heritage conservation and preservation.

REFERENCES

Abdelmonem, M. G. (2016). The Architecture of Home in Cairo: Socio-spatial Practice of the Hawari Everyday Life. London: Routledge.

Abdelmonem, M. G.; Selim, G.; Mushatat, S.; Almogren, A. (2017). Virtual Platforms for Heritage Preservation in the Middle East: The Case of Medieval Cairo. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 28-41.

Abdulla, K. M. A.; Abdelmonem, M. G.; Selim, G. (2017). Walkability in Historic Urban Spaces: Testing the Safety and Security in Martyrs' Square in Tripoli. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 163-177.

Copyright © 2017 | Copyrights are granted to author(s), Archnet-IJAR, and Archnet @ MIT under the terms of the "CC-BY-NC-ND" License.

Abdullahi, Y., Embi, M. R. (2015). Evolution of Abstract Vegetal Ornaments in Islamic Architecture. International Journal of Architectural Research: ArchNet-IJAR 9(1):31-49

Addison, A. C. (2000). Emerging trends in virtual heritage. IEEE multimedia, 7 (2), 22-25.

Aggour, H. (2017). Virtual Reality: Towards Preserving Alexandria Heritage by Raising Awareness of the Locals. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 94-108.

Arafa, M. N. (2017). ACHILLES as a Marketing Tool for Virtual Heritage Applications. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 109-118.

Arendt, H. (1958). The Human Condition. Chicago: University of Chicago Press.

Burch, S. (2017). A Virtual Oasis: Trafalgar Square's Arch of Palmyra. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 58-77.

Connerton, P. (1989). How societies remember. Cambridge: Cambridge University Press.

Eshrati, P.; Bahramjerdi, S. F. N.; Mahabadi, S. E.; Azad, M. (2017). Evaluation of Authenticity on the Basis of the Nara Grid in Adaptive Reuse of Manochehri Historical House Kashan, Iran. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 214-230.

Foster, N. (2000). Rebuilding The Reichstag. London: Weidenfeld & Nicolson.

Gaffikin, F., McEldowney, M., Rafferty, G., Sterret, K. (2008). Public Space for a Shared Belfast. Belfast: Belfast City Council.

Goldie, R., Brid, R. (2010). Crossing the Line: Key Features of effective practice in the development of shared space in areas close to an interface. Belfast: Belfast Interface Project.

Hamza, N.; ElKerdany, D.; Pendlebury, J.; Imam, S.; AlSadaty, A.; Elserafi, T. (2017). Sustained Liveability: A Framework Beyond Energy-Conscious Building Conservation of Market Halls. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 119-131.

Harrington, S.; Dimitrijević, B.; Salama, A. M. (2017). Modernist Architecture, Conflict, Heritage and Resilience: The Case of the Historical Museum of Bosnia and Herzegovina. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 178-192.

Holod, R. (1980). Conservation as Cultural Survival (Ed.). Philadelphia: Aga Khan Award for Architecture.

Kamel-Ahmed, E. (2015). What to conserve?: Heritage, memory, and management of meanings. International Journal of Architectural Research: Archnet-IJAR, 9(1): 67-76.

Khalaf, R. (2015). The Reconciliation of Heritage Conservation and Development: The Success of Criteria in Guiding the Design and Assessment of Contemporary Interventions in Historic Places. International Journal of Architectural Research: ArchNet-IJAR, 9(1), 77-92.

Khalil, M.; Elsaay, H.; and Othman, A. (2017). Talent Management as a Novel Approach for Developing Innovative Solutions for Egyptian Heritage Communities Development. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 132-145.

Khan, H. U. (2015). Architectural Conservations as a Tool for Cultural Continuity: A Focus on the Built Environment of Islam. International Journal of Architectural Research: Archnet-IJAR, 9(1), 01-17.

Kuechler, S., Forty, A. (1999). The Art of Forgetting. Berg: Oxford.

Madanipour, A. (2010). Marginal public spaces in European cities. Journal of Urban Design 9(3), pp. 267-286.

Nezhad S. F., Eshrati, P., Eshrati, D. (2015). A definition of authenticity concept in conservation of cultural landscapes. International Journal of Architectural Research: ArchNet-IJAR, 9(1):93–107.

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Ramsey, E. (2017). Virtual Wolverhampton: Recreating the Historic City in Virtual Reality. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 42-57.

Riganti, P. (2017). Smart Cities and Heritage Conservation: Developing a Smartheritage Agenda for Sustainable Inclusive Communities. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 16-27.

Roders, A., & Grigolon, A. (2015). UNESCO to Blame: Reality or Easy Escape?. International Journal of Architectural Research: ArchNet-IJAR, 9(1), 50-66.

Schulz, B. (2000). The Reichstag. The Parliament Building by Norman Foster. Munich: Prestel.

Selim, G. ; Abdelmonem, M. G.; Mushatat, S.; Almogren, A. (2017). Contested Heritage: An Analysis of the Physical Transformation of Derry/Londonderry's Siege Monument. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 146-162.

Smith, L. (2006). Uses of Heritage. Oxon: Routledge.

Soliman, M. (2017). Virtual Reality and the Islamic Water System in Cairo: Challenges and Methods. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 78-93.

Yussupova, A.; Songfu, L.; Namazbay, A.; Pour Rahimian, F; Ebrahimi, A. N. (2017). Ornamental Art and Symbolism: Activators of Historical Regeneration for Kazakhstan's Landscape Architecture. International Journal of Architectural Research: ArchNet-IJAR, 11(3), 193-213.

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