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Ethics of Digitizing Public Heritage

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The preservation of heritage and culture has gained new meaning and scope in the digital age, leading to new challenges around the ethical practice of digital culture. Without clear direction or an ethical framework, western interventions of digitizing public heritage from emerging countries can often fall into the dark hole of 'digital colonialism.' This paper will contextualise this contemporary form of colonialism and sketch out a framework with which the ethics of digital reconstruction can be analysed.

Digital colonialism. Ethical reconstruction. Public heritage. Digital reconstruction.

1. INTRODUCTION

UNESCO's charter of 2009 defines the term digital heritage as cultural, educational, scientific and administrative resources, as well as technical, legal, medical and other kinds of information created digitally, or converted into digital form from existing analogue resources (UNESCO-2003). Digital technologies that allow us to create 3D renders of objects and even make 3D prints of them have resulted in the preservation, accessibility and dissemination of cultural objects to more unexplored markets and audiences globally. The implications of this are that lost or damaged precious objects have a chance at a second life. Countries and companies have rushed to restore or even resurrect sculptures, landmarks and other heritage sites destroyed by war, violence or extremist groups with the use of these digital technologies.

While the idea itself may be commendable, there are underlying issues that cloud the picture and it is essential to explore the associated challenges. This becomes particularly clear when we examine the question of reconstructing cultural heritage of emerging countries, specifically those where culture has been destroyed due to conflict or extremist groups. Most of such projects are driven by western individuals or organisations. Many of these consciously or unconsciously use this opportunity for financial gain, and this 'for-profit' model is problematic especially when seen in the context of cultural ownership and origin. Additionally, there are a variety of political and financial imbalances that come with digitizing the heritage of a conflicted area, such as access to internet and the distribution of the reconstruction. In many ways, as Harold Schiller described in his seminal work *Communication and Cultural Domination*, the practice of western players digitizing public heritage in emerging countries shows many shades of colonialism (Schiller, 1976). Schiller was the first to coin the term "Electronic Colonialism," which he defined as progressive technological communities propagating their views as well as controlling information and mass media to limit marginalized communities' access and presence in the electronic or digital space. One of the most outspoken artists recently discussing digital colonialism is Iranian artist Moreshin Allahyari, who began to work on the issue after the ISIS attack on the Mosul Museum in 2016. In an interview with Hyperallergic, she has described digital colonialism as

> …a term that specifically relates to the use of digital technologies such as 3D printing and 3D scanning, as ways of colonizing historical, and cultural heritage artifacts and sites" (Vartanian, 2019)

At present digital preservation generally lacks a clear ethical framework for who, how, what, where, and why to restore certain historical artifacts through the use of technology. This paper will explain some of the challenges associated with it by primarily examining the work of Allahyari and other examples from the region. The relevant factors that influence the ethical representation of an object will be identified, through which conclusions can be drawn on a more post-colonial approach to this kind of digitisation.

2. DIGITAL COLONIALISM IN CONTEXT

Throughout history, the appropriation of culture has often been weaponized in conflict and used as a means of asserting power and dominance. The

looting of the conquered cities was a common occurrence, and often the victors would parade the spoils as a show of might (Deprez, 2020). As the heart of a country or people's identity, culture suffers greatly in these conflicts: the conquerors, in claiming the vanquished culture as their own, remove the traces and ownership of the original heritage. Over time, colonial powers have filled their museums with objects stolen during their campaigns. For example, Kohinoor, regarded as one of the most precious ornaments from the Indian-Subcontinent, had a long-standing history of existing in multi-cultures and countries before its presentation to the Queen Victoria of England (Dalrymple, 2016). When the Britishers colonised India, Kohinoor and many other vital ornaments and artifacts were sent to (present-day) Great Britain, to boast about the English empire's reach, power, and superiority. In recent years, post-colonial movements have pushed for the return of such objects to their home countries, but while there have been some efforts to do so, it has been inconsistent and incomplete.

Ironically, many of these colonial powers have in the past made agreements to limit the pillaging of cultural artifacts in their own conflicts, understanding the importance of these in a country's identity and history. At the end of the nineteenth century at the Hague Convention, many of the world's leading powers agreed on the explicit restriction on the pillaging of cultural objects and ornaments – known as cultural property - during a conflict or war (ICRC, n.d.). However, this hasn't made much of a difference in actuality. For example, although they were present and signed both the Hague Conventions of 1899 and 1907, Germany didn't abide by any of its rules during the following world wars.

The systematic destruction or removal of cultural objects as a tool of colonisation continues even in the modern day, as seen in the actions of terrorist groups in the Middle East and South Asia – the Taliban's destruction of the Bamiyan Buddhas and ISIS's targeted attacks on the Mosul Museum and other cultural sites in Iraq and Syria are testaments to this practice (Shaheen, 2016). Closer look into these attacks show how these extremist groups have targeted cultural objects through a sensationalized presentation of their religious sentiment as a tool of digital marketing (Piazza & Guler, 2019).

However, now technology has opened an entirely new avenue around preserving cultural heritage through digitisation. As companies and museums rush to digitise the lost collections of these centuries-old cultures, they ignore many deep, ethical questions around ownership and accessibility.

One main reason where digital reconstructions fail ethically is their understanding of accessibility and who participates and receives the digitised work. It is important to remember that technology is neither universally positive nor even universally neutral: rather, behind every technological code or development, there are people who are deciding its behaviour, ownership, distribution and dissemination (Jouhki & Pertti, 2017). Moreover, the distribution of technological resources and capital across the world is not equitable. Rich countries have access to many more resources and as such have the advantage in understanding these technological tools and designing their purposes. This phenomenon is referred to as the digital divide (Penn State University, n.d.).

Following the targeted attacks by ISIS and the Taliban on cultural heritage sites in Iraq and Syria, many western artists mobilised to digitally recreate the destroyed heritage. Their justifications in doing so were rooted on a utilitarian type of reasoning which views the majority or the collective as most important. However, the use of rhetoric such as 'saving culture' or collective language has often been a tool of colonialism. Moreshin Allahyari, through her work and interviews, particularly raises questions about the use of the words such as "us," "our," "collective," and "save" as an indirect representation of inequality and subjugation of the people whose heritage is at risk (Rhizome, 2019).

Power structures have always played a critical role in the preservation of certain elements of history, and again in digital colonisation we see patterns of the powerful dictating what is preserved, when, and shared with whom. Instead of assuming the innocence of what seems like a simple humanitarian act of reconstruction, we must ask questions such as: What motivated these artists to work on the reconstruction of heritage? Did they have any affiliation to the country or the institute? Did empathy play any role in the digital representation or construction of the works? Who was allowed to participate in the reconstruction and for whom was it created?

3. CASE STUDIES: THE PALMYRA ARC OF TRIUMPH AND THE DISTRIBUTED MONUMENT

One very high-profile example of the ethical complications around digital reconstruction can be seen in the acclaimed reconstruction of the Triumph Arc of Palmyra. One of the most famous sites destroyed by ISIS, the Arc was previously the entrance to the Temple of Bel, and its reconstruction by the Institute for Digital Archaeology (IDA) in the UK was the first attempt at a life-size 3D printed model of the destroyed site. The effort received a heroic welcome when it was opened for public display in London and New York (Figure 1) (Digital Archeology UK, n.d.).

Del Valle for *The Gothamist* reports on the unveiling of the Arc in New York, where the Executive Director of IDA, Roger Michel, said,

> We hope to signal the potential for triumph of human ingenuity over violence and celebrate images from the past that unite the cultures they represent. (Del Valle, 2016)

The reconstructed Arc was meant to be a symbol of defiance against the destructive actions of ISIS. However, IDA's work had many ethical ironies encapsulated in it. The first touches on the hypocrisy of focusing on a certain act of violence while ignoring one's own contribution to it: while public figures in London and New York were celebrating these decisive steps in preserving the heritage of Iraq and Syria, their respective governments were cutting down on support for asylum seekers from the conflict-hit counties (Easton & Butcher, 2018).

Figure 1*: The Unveiling of the reconstructed Arc of Palmyra, World Heritage Week on Trafalgar Square, 2016.*

The foundations of IDA's work were built by collecting information from various public sources, but the Syrian people themselves were not involved in the discourse on the reconstruction of the Arc. With the concerned people left out of the entire picture, the attempt to console the world of Palmyra's loss of heritage and civilization looks more like a blatant display of power and superiority. In many ways, it is analogous

While the west was trying to reconstruct the Palmyra Arc as though it had never been destroyed, the Syrian Director of Antiquities, Maamoun Abdelkarim, took a different approach, explaining that the temples and sites reconstruction would be carefully and tactfully carried out but not they would not attempt to replicate their former history (Jones, 2016).

This point touches on the question of whether or not the moment of destruction should be erased from history. The efforts to 3D print the original Arc of Palmyra will never be authentic in that the 3D printing only replicates one single image or narrative of the object. Beyond a simple mimetic display, the artist's interpretation and perspective should enable the audiences to build their perspective, conduct research, and deep dive into the full history of the heritage. A simple fantasy display of the destroyed site in an imagined perfection erases and ignores its history, while claiming ownership through the resurrection.

An example of an ethical, representative-reconstruction of the Arc of Palmyra can be seen in the work of artist and educator Azra Aksamija, working at the MIT Media Lab. Aksamjia recreated the Arc of Palmyra through a participatory technique involving 20,000 small pixels laser cut with the icons of different heritage sites at risk (Figure 2). When seen from a distance, these pixels imitate the image of the Arc of Palmyra (Figure 3). The individual pixels build together in a mosaic style to form a bigger picture of the destroyed site. As such, while it questions and condemns the actions of ISIS, the work also signifies the historical importance of Palmyra.

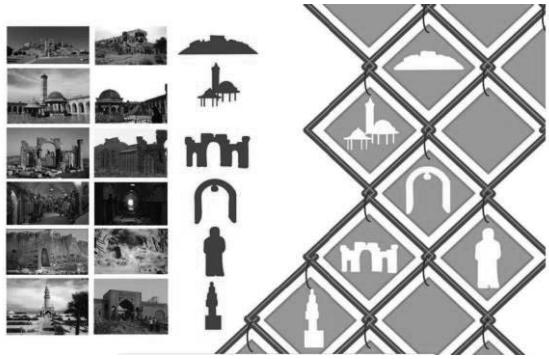

Figure 2: *Sites in Danger printed on pixels concept, Memory Matrix.*

Figure 3: *Preview of Palmyra formed with pixels, Memory Matrix.*

Another digital reconstruction of an ISIS-destroyed object, but with a very different approach, was the series *Material Speculation: ISIS* by Iranian-American artist Morehshin Allahyari. The project digitally recreated twelve Hatran artifacts destroyed in Iraq during the ISIS attacks of the Mosul Museum. In her own words, the work's underlying

idea was to explore the relationship between technology, capitalism, religion and materiality (Allahyari, n.d.).

One of the defining features of the Allahyari's work was that the digitally recreated artifacts were 3D printed with transparent material and embedded inside each figure was a USB key containing all the relevant information about the artifact itself, including all the communication, research, photographs and historical resources collected by the artist. One of the reconstructed artifacts was chosen by the Rhizome Commission's Download Series, a project that makes the artwork's files freely available for download by any user. Entitled *The Distributed Monument (TDM)*, the chosen artifact was released on the Rhizome website along with all its source files and supporting materials (Soulellis, 2016).

TDM is the digital reconstruction of the statue of King Uthal, a prominent king during the emergence of the Hatran civilization (Figure 4). It was one of the finest marble statues to be removed from the site of the Baalshamin Temple in Hatra during excavations in 1951. The King's left-hand rests on his sword, and the right-hand gestures forward to depict prayer or peace. After its discovery, the statue of King Uthal was restored and moved to the Mosul Museum, where it remained until it was destroyed in 2015 by ISIS.

***Figure 4**: King Uthal of The Distributed Monument by Moreshin Allahyari.*

Because the source files, including the 3D renders, are available for any and all to download, the user's computer becomes a pseudo gallery space, in which the user is the viewer, creator, and exhibitor all at the same time. The Rhizome Commission's online portal of *TDM* hosts a zip file of five hundred and seventy megabytes, which contains .stl and .obj files readable by specific 3D software that allow the user to recreate all the details of the destroyed statue and modify them as they desire. In addition to these files, the artist also released the research, relevant communication, the editable files and other supporting material as part of the .zip file. As every user downloaded and added to the statue's history, the theory went, the less important the moment of destruction. As such, this shared, evolving narrative pushed against the selective historical context of the statue disseminated by the media and ISIS – the thirty seconds in its thousand-year life when it was destroyed.

Aside from *TDM*, Allahyari also developed a performance piece connected with *Material Speculation: ISIS* which delves deep into the subject of digital colonialism through the reconstruction of cultural objects. In an interview with Hyperallergic, Allahyari stressed that instead of just focusing on the material destruction, it is vital to understand the circumstances that led to it in the first place (Vartanian, 2019). She also noted the problematic colonial power structures that naturally arise when the global west takes it upon itself to "save" or "restore" eastern cultural heritage. Throughout this work and others, Allahyari constantly worked to draw attention to the fact that reconstructions must be examined and questioned, instead of accepting simply as an 'act of humanity.'

4. AN ETHICAL FRAMEWORK FOR DIGITIZING CULTURAL HERITAGE

There are many complications around the digitisation of cultural heritage. A main question is that of ownership, especially in cases of public heritage. To whom does the object belong, and who has the right to restore it? The impact of the digital divide tends to bias the western world as the main custodian of heritage, and the shadow of colonisation becomes clear when the educated west controls access and rights to the eastern culture.

Further complications come into play with the question of why organisations or individuals, especially in the west, have an interest in preserving cultural heritage of emerging countries, especially in cases where they have had a hand in the destruction in the first place by creating or contributing to political instability in the region. Financial gains or political agendas may play a part in the motivations behind the restoration, such as certain western companies who profit from the patents or copyrights of the scanned files.

For example, CyArk is a prominent American company working in digitising heritage. Their website boasts that they have over 200 projects on all seven continents and makes liberal use of the rhetoric of "saving" collective culture (CyArk-n.d.). And yet, the company only allows access to their information to selective participants. In order to request access to CyArk's digital files, an individual must fill in a form on the website and agree to the terms and conditions of the company, which include a non-commercial clause which restricts any display of the recreations in cultural institutions in the region from where the data is recorded. This clause is

particularly problematic as it ensures the company retains the rights and financial profits to the recreation of heritage that does not belong to them.

Aside from the question of ownership, there are other hidden ethical challenges of digital restoration, such as the environmental strain of cloud computing and the question of whether or not digital recreations have a longer shelf life just because they are stored on the internet. In the context of this paper, six main factors have been identified as the most important in creating an ethical framework: interactivity, timeframe, transparency, sustainability, materiality, and accessibility. These factors certainly overlap in some aspects, but overall, they contribute to the overall ethical impression of the project. The point is not that cultural heritage should never be reconstructed, but rather, an awareness of context is essential for sensitive and culturally appropriate endeavours. The proposed framework is nothing more or less than a vehicle for developing this awareness through a series of targeted questions.

The ethics of a digital reconstruction is closely related to the context in which it is created, and the above factors heavily rely on the contextual grounding of the project.

Transparency becomes important as it deals with the clear communication of the artists in the collection of data and consultation with the local stakeholders as they construct the narrative and storyline of their work. This factor also helps give a fair understanding whether the digital reconstruction has been conducted as a democratic or authoritarian process and is especially relevant when it comes to the investors behind such a campaign. Moreshin Allahyari's Iranian heritage played a factor in her decision to take on the reconstruction of the destroyed artifacts, whereas the IDA's Arc was more of a public display of cultural restoration.

Accessibility is a critical factor in understanding the context of digital reconstruction and is an area where the shades of techno-colonialism can be examined minutely. As a whole, accessibility represents many other connected factors, which include language, mode of exhibition, mobility, patents, technical literacy and economic privilege. Here, Allahyari's *TDM* struggles, as downloading the files from the Rhizome website required a decent internet connection. Allahyari herself lamented that most of the downloads were from the US and Europe, which she felt didn't represent what she was trying to do (Vartanian-2019). One might look at if a reconstruction of a Syrian object includes information in Arabic or if it is displayed in the local context.

Materiality encapsulates the intended shape, size and material used to produce the digitally recreated physical object, which effects how the object is read by the audience. It can involve aspects of sustainability as well, both environmentally and culturally. For example, *TDM* by Allahyari used a special resin for the 3D printing that was transparent in order to showcase the USB key within that contained the historical context of the artifact. The IDA, on the other hand, aimed for a true-to-life representation. The material of construction can come into play as well. There are a few different techniques of 3D printing, with the most prominent ones being Fused Deposition Modeling (FDM) which uses a special plastic developed from oil and gas (Bedrich, 2018). Therein lies of the irony of using oil-driven plastics for printing: The digital recreations of artifacts from Iraq and Syria, if printed in plastic, may use the very same oil products smuggled by the terrorist group into the western world through Turkey and Iran (Hawamy, Mohammed, & Harding, 2014).

The timeframe reflects on the particular moment in time of the artwork, and why the recreation may or may not be important. For example, the historical objects that ISIS destroyed had existed for thousands of years and withstood many natural and human-created calamities, and yet only one human-caused calamity becomes the focus of the artworks. The IDA, for example, chose a specific moment of the Arc to represent, which enforces a certain timeframe of its existence. Allahyari's more abstract, transparent *TDM* can stand for the artifact at almost any moment in its history. Timeframe also helps to understand the artwork in its own contemporary moment, including the originality of the art piece, and the age of intended digitisation, all of which are dominant factors in assessing the ethics of a digital reconstruction.

Interactivity examines the flexibility in the narrative of digital reconstruction and the opportunity for audience participation in the narration of a story. It also determines if the artist is open to feedback or if the intended art piece has a passive or active interaction with its audiences. Allahyari's *TDM* for example intends to involve the audience in the collective narrative of the object by sharing all the source files and historical documents.

Finally, sustainability explores the life of the digital representation in the digital space. Their proper referencing, maintenance, archiving over time becomes critical to the overall life of the artifact and helps determine genuine motives over those of pure financial or media gain. Many webpages for these digital projects are no longer active or relevant, only existing at a moment for maximum gain to the artist or company. One might question, for example, where the IDA's reconstructed Arc is today, and how it is being maintained.

It should be noted that the context of a reconstruction is not limited to these factors only: other contributing factors could include archiving systems, private collection and museum ownership,

however, further research with a broader scope would be required to both identify and examine these. Nonetheless, the six identified factors here touch on the main elements that affect an ethical reconstruction.

5. CONCLUSIONS

The purpose of this research was to establish an ethical framework that can assist artists, organisations and other relevant stakeholders when deciding whether or not to engage in a project to digitally reconstruct a destroyed object or cultural heritage site in the emerging world. Analysis of various examples makes it clear that one of the greatest challenges of a digital reconstruction is its target audience. The reach and perception of digital heritage are severely affected by the non-uniform distribution of resources and technical knowledge across the world. In addition, the intentional or unintentional exclusion of the targeted community, whether it be in the same societies who are reconstructing their heritage or in the participation of the digitised heritage through prohibitive copyright conditions, makes the entire project much more problematic.

This is where the term digital colonialism comes into force, where the western power uses the digital heritage of an emerging country to show its power, belittle the heritage's home country as unable to look after their own heritage, and exploit public sentiment for financial gain. While it may be tempting for an artist to undertake a project of the digital recreation of a public heritage object or a site from a conflict zone in order to supposedly defy those who destroyed the object, without careful thought, reflection and planning, the artwork can easily slip into the realm of cultural exploitation, appropriation and techno-colonialism. This is especially true when the sustainability factor comes into force, whereas the degeneration of digital assets makes it clear that projects are purely meant to capitalize on public.

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