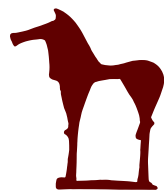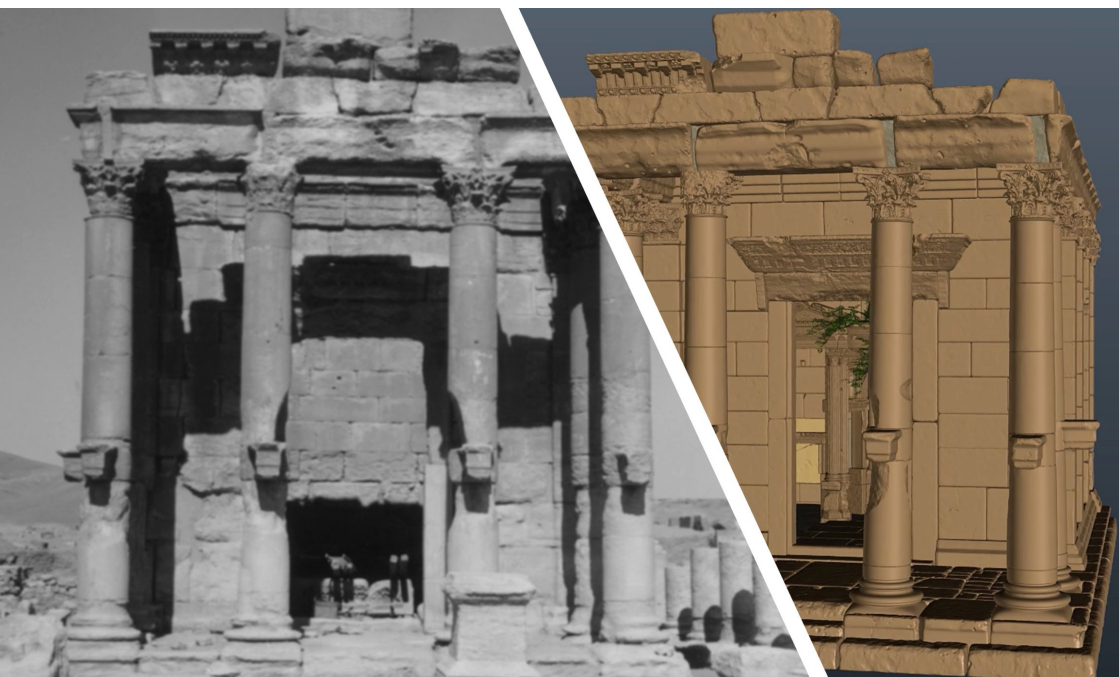# BABESCH

Sixteenth BABESCH Byvanck Lecture

Patrick M. Michel

Digital safeguarding of the Baalshamin Temple in Palmyra
A project of the University of Lausanne

Tuesday April 18th 2023
in collaboration with the National Museum of Antiquities in Leiden

The BABESCH Foundation

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Leiden

2023

The BABESCH Byvanck Lecture Series

April 18th 2023
Patrick M. Michel (University of Lausanne)
Digital safeguarding of the Baalshamin Temple in Palmyra:
A project of the University of Lausanne

December 7th 2021(virtual), May 25th 2022
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Eggstraordinary Objects: Ostrich Eggs as Luxury Items in the Ancient Mediterranean

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Inside the Adyton of a Greek Temple: Excavations at Kythnos

Digital safeguarding of the Baalshamin Temple in Palmyra: A project of the University of Lausanne

The destruction of Palmyra's Temple of Baalshamin by ISIL/Da'ish in 2015 crystallised the sense of loss of memory for those who had fled the combat zones during the Syrian Civil War. The main challenge today is how to document both the monument itself and its destruction. The Collart-Palmyre Project at the University of Lausanne digitised photos, sketchbooks and notebooks from the archive of archaeologist Paul Collart (1902–1981) and made them accessible to researchers and Syrian refugees via an open access database and a 3D reconstruction of the temple. A Virtual Reality experience created by ICONEM and Ubisoft and recently ArcheoVision, and partnerships with UNDP Syria and NGOs allow displaced Syrian refugees to view 3D models of the temple. The project produced Arabic learning tools and a booklet on the history of Palmyra, with emphasis on its multicultural aspects in antiquity, and aims to explore how these digital assets provide a scaffold for the memories of migrants.

HERITAGE DESTRUCTION IN PALMYRA

After the onset of political instability in Syria and due to the urgency of the situation, the site of Palmyra was inscribed on the List of World Heritage in Danger in 2013, having originally been listed on the List of World Heritage in 1980. Recent discussion may lead to inscribe it back on the World Heritage list. The site of Palmyra was first occupied by Da'ish on May 21st 2015. During this first capture of the city, on June 10th, the funerary monuments (towers) were destroyed. Khaled al-Assaad, the former director of antiquities in Palmyra, was assassinated. Then, on August 25th, the sanctuary of Baalshamin was blown up. Five days later, the temple of Bel was destroyed. The monumental arch, probably dating from the reign of Septimius Severus, was destroyed on October 4th 2015 by mechanical means. The city was recaptured by Syrian, Iranian, Russian, and Shiite militia forces on March 27th 2016, and then retaken by Da'ish. During this recapture on December 11th 2016, the *tetrapylon* (or *tetrakionion*) as well as the wall of the theatre were destroyed. In March 2017, the site was retaken by the Syrian army.

Fig. 1 (top): Photograph of the Temple of Baalshamin in 1956 (© ASA – UNIL).

Fig. 2 (bottom): General view of the destroyed Temple of Baalshamin (© Bartosz).

The temple of Baalshamin

The temple of Baalshamin in Palmyra was excavated by a Swiss team between 1954 and 1956 and in 1966, under the direction of the archaeologist Paul Collart. The Baalshamin sanctuary was dedicated to the 'Lord of the Heavens', a West Semitic deity. Furthermore, he is the god who is associated with bringing rain and guaranteeing a good harvest: "The lightning he brandishes in his hand is not a representation of terrifying power, but a reminder of the fertile rain which accompanies a storm, which makes the desert green again and prevents the springs from running dry." (Collart and Vicari 1969, 203). In the region of Palmyra, where the economy is fundamentally based on caravans, he also protects people, cattle herders, and farmers from drought. He is also worshipped as an agrarian god, symbolised by the corn ears, fruits, and grapes bouquet he wears.

This temple was situated in the northern part of the ancient city. The whole sanctuary consists of three courtyards with porticoes, a banquet room, and a *cella*. Of this sacred element, only the *pronaos* and the *naos* remained until August 2015. The *cella* was similar to a small building: 15 metres long and 10 metres wide. The morphology of the whole sanctuary (temple, courtyards and walls) changed through time, especially between 17 AD and 131 AD when the tetrastyle temple was inaugurated for the visit of Emperor Hadrian (fig. 1). Later during the Byzantine period, the temple was repurposed. Collart concluded that the temple was converted into a church and he dismantled the Byzantine remains[1] (*spolia*) in order to rebuild the *thalamos* of the Roman temple. A *thalamos* is to be considered as the holiest part of the temple, the innermost sanctuary; a shrine. Today, the interpretation of the temple-church remains under discussion.

The temple was completely destroyed by Da'ish using explosives in August 2015 (fig. 2). Today, the archives of the Swiss mission represent the most complete source for the understanding, the digital restitution, and the transmission of the memory of the temple of Baalshamin. According to Anna Gustavsson of Gothenburg University, "archives are essential for historians of archaeology, but at the same time they are also invaluable for the everyday practice of archaeologists. The process of archiving is one of the most important features of archaeology and it has had a great influence on the professionalisation of the discipline. […] In addition, the archive can work as a resource connecting the past, present and future of our discipline. Archives can also provide a starting point for research projects." (in an abstract of a talk given at the European Association of Archaeologists Conference 2016: https://www.academia.edu/21890527/EAA_2016_Call_for_papers_Deadline_1_March_Session_Archives_and_Archaeology).

In the case of Palmyra, after the destruction of the monuments and the sack of the local museum, archives (including photographs, drawings, plans, inventories, and notebooks) are the only remaining elements that can be used to keep the cultural memory of the monument alive. With such elements it is possible to create a digital replica of the lost monument and estimate the feasibility of reconstructions, using technological devices to create a simulation of the reconstruction — anastylosis. This is how and why the Collart-Palmyre Project was born.

PAUL COLLART

Paul Collart (fig. 3) was a Swiss archaeologist born in Geneva in 1902. In 1926, he was admitted as a foreign member to the French School of Athens, and from 1930 to 1935 he was in charge of the excavations at Philippi in Greek Macedonia. From 1938 to 1940, he worked on the Great Altar at Baalbek in Lebanon. UNESCO entrusted him in 1953 with the inventory of cultural property in Syria and Lebanon. Collart had been sent to Palmyra by Henri Seyrig who, at that time, was the founder of the IFAPO—Institut français du Proche-Orient in Lebanon. From 1954 to 1956, financed by the Fonds national de la recherche, Collart organised the first major Swiss archaeological mission abroad, excavating the Temple of Baalshamin in Palmyra. In 1966, he carried out the anastylosis of several columns in the porticoes of the temple, *i.e.* their reassembly from the original blocks, and worked together with Syrian architects for the reconstruction of the *thalamos*, the holy chapel inside the *cella*. The context of the presence of Switzerland in the Near and the Middle East cannot be compared to that of other European countries. Switzerland had no colonies, even if Swiss actors were involved in colonial trade.

COLONIAL PAST AND SWITZERLAND

As Switzerland never had colonies, in the country's collective imagination, Switzerland is considered not to have had a colonial past. This fundamentally inaccurate representation is pointed out by academics and activists, who continue to denounce the colonial heritage at work in the country. As recalled Patricia Purtschert, Professor of gender studies and co-director of the Interdisciplinary Centre for Gender Research at the University of Bern: "As a national state, Switzerland had no colonies. However, many Swiss actors were involved in colo-

nial trade, colonial science or missionary activities that were very relevant in transmitting ideas about colonial hierarchies and white supremacy. (…) There is still a strong refusal to acknowledge that racist ideas are part of Swiss culture. It is easier to claim that we didn't have a colonial history than to face the hard task of decolonising its culture and society." (from https://www.letemps.ch/monde/lheritage-passe-colonial-suisse-question).

Fig. 3: Photograph showing Paul Collart in Palmyra, 1954–1956 (© ASA – UNIL).

As far as the Collart-Palmyre Project is concerned, the name of the Swiss archaeologist has been deliberately kept in the name of the project as a reminder of Collart's dedication to science and to his work, as well as the very high quality of the archives. How could we decolonise our collection of archives? In the presentation of an International Conference called '*Comment décoloniser les collections des musées helvétiques?*' or 'Ready for the Past. On the State of Decolonization in Swiss Museums' (May 4ᵗʰ–5ᵗʰ 2022, organised by the CRHIM—Centre d'histoire internationale et d'études politiques de la mondialisation, one can read: "In Switzerland, too, museums are increasingly addressing the question of how they can 'decolonise' their collections, history, and narratives. Parallel —but all too often unconnected— to these efforts, numerous studies have shown in the last 10 to 20 years or so, how Switzerland as a social, cultural, and economic space became part of a European imperial expansion overseas from the 16ᵗʰ century onwards and was permanently shaped by this process. While there is a growing awareness that a fairer future can only be achieved through a critical engagement with the colonial past and its continuities, the practical questions of whether it is even possible to decolonise

institutions, and if so, how this should be done, are the subject of controversial debates. Moreover, efforts and debates in Europe and elsewhere have so far remained somewhat disconnected." (from https://wp.unil.ch/esspace/2022/06/la-decolonisation-des-musees-en-suisse-un-defi-du-present/).

Even though the practice of Swiss archaeology in foreign countries was carried out in a different way and context from other European countries, the question of ethical responsibility in handling archives is of great importance for the Collart-Palmyre Project.

THE PROJECT

The Baalshamin temple was destroyed in August 2015 and the project at the University of Lausanne was launched in 2017. After the death of the archaeologist, his family decided to donate the archive to Pierre Ducrey, Dean of the Faculty of Arts at that time, who in turn gave it to the Department of Archaeology and Ancient History at the University of Lausanne where Collart had been a Professor. When Collart was working in Syria, Switzerland had no official or national archive for archaeological missions. The French School in Athens or the Swiss School of Archaeology of/in Greece now have organised archives, but it was Collart's decision to keep every record of his work at that time.
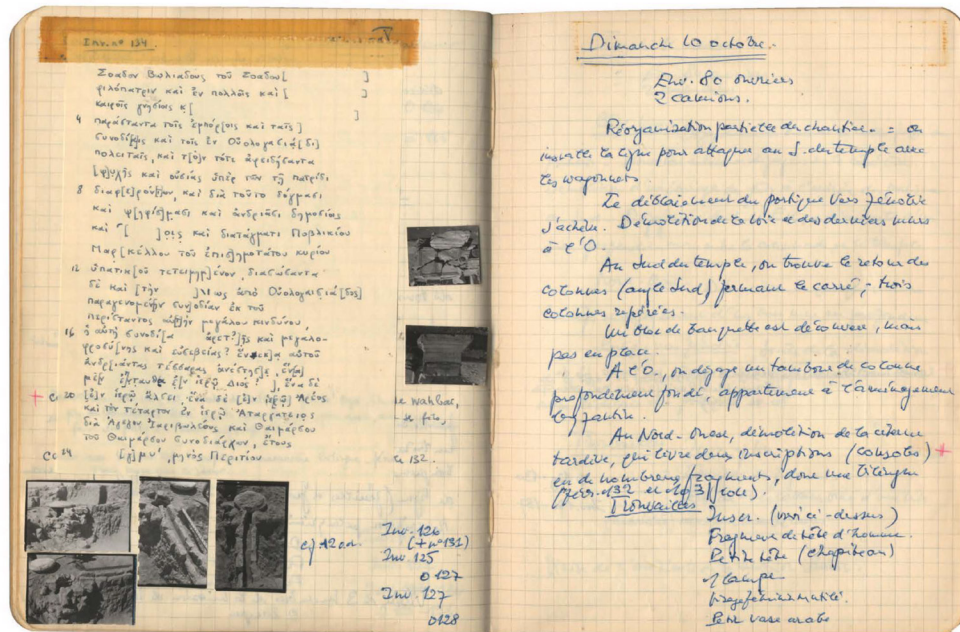

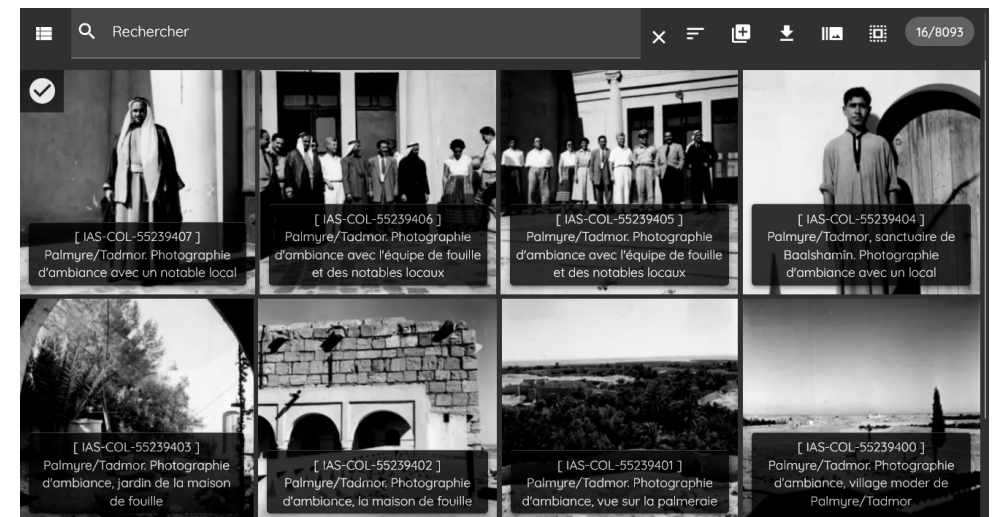*Fig. 4: Pages from the diary of 1954–1955 (© ASA – UNIL).*

Fig. 5: Screenshot from the Tiresias *database.*

Fig. 6: The 'Baalshamin Temple' model on the Sketchfab webpage (© Projet.Collart).

Fig. 7: Screenshot of the Argumentation Method Database.

The Collart archives are the best source in the world to document the Baalshamin sanctuary in Palmyra (fig. 4). This documentation is invaluable for all future restoration or virtual reconstruction projects. There are thousands of black and white photographs, and only a few in colour. All the plans, notebooks, drawings and sketches of the architectural elements, decorations and archaeological furniture have also been preserved. More than 5,000 items have been indexed and digitised in the online open access *Tiresias* database, of which approximately 5,000 specifically relate to Palmyra (fig. 5), and around 500 artefacts are available in the Collart-Palmyre Object Database. Finally, to publish the 3D models created within the project, we have used Sketchfab (fig. 6) and Potree, making the models available online (see below and list of references). We have also documented different phases of the Sanctuary of Baalshamin on The Reconstruction Argumentation Method database (fig. 7).[2]
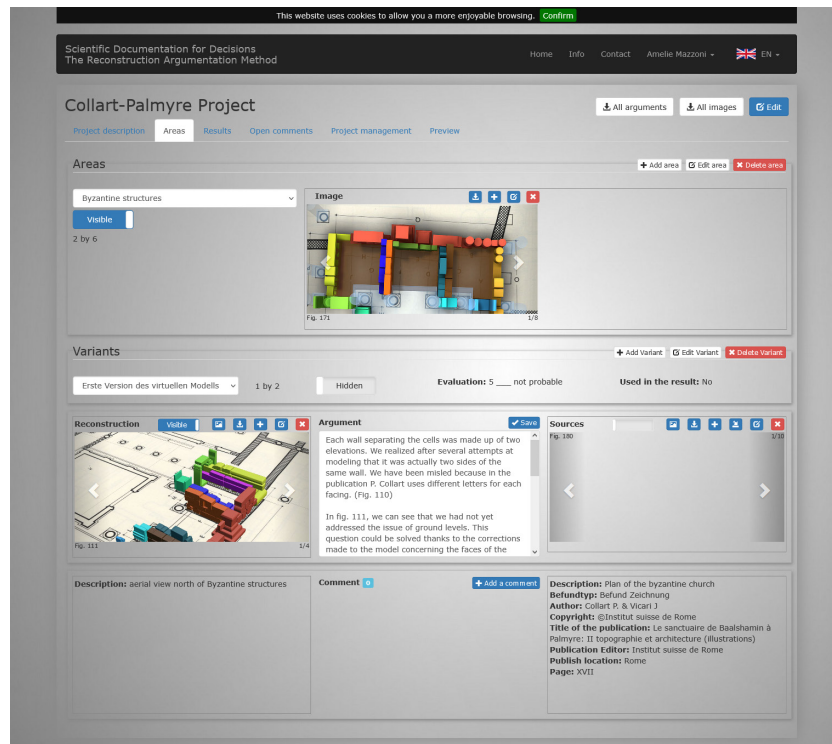
The aims of the project are:

To preserve the memory of the monument
By 3D-modelling the sites which are under imminent threat of disappearance, we are working to preserve a common asset and to ensure its transmission to future generations. The Baalshamin temple was never 3D scanned before its destruction. During a future field survey, and a study of the remaining blocks, it will be mandatory to consult our documentation to certify the damage and assess the extent and percentage of loss. Finally, the plans will be essential in order to organise the eventual anastylosis.

To produce a digital double of the temple throughout its history
As the monument no longer exists, it is important to produce a digital replica which can be studied and shared. Some questions about the life and the use of the monument remain unanswered. A digital diachronic model will help to study the circulation between the various elements of the sanctuary throughout its history. Furthermore, a digital diachronic model makes it possible to study various periods of time of the monument, from the late Hellenistic period to the Islamic period, whereas a material reconstruction would mean to arbitrarily make a choice regarding the specific period of time to be under conservation. This work of virtual reconstruction was performed following the International standards of the London Charter and the Sevilla Principles for Virtual Archaeology (fig. 7).

To make the whole documentation available via an online platform, allowing geo-localisation of items

The open source online platform Potree web viewer is a research tool with measuring functions that also gives access to unpublished documents from the archive (fig. 8). Online users can access 3D models, read the notebooks, study the plans, see the drawings, and download pictures from the online archive. We, therefore, provide all the necessary conditions to enable scholars to conduct scientific research on the original documentation directly online. To integrate the archive with the 3D models on Potree, every picture or drawing in JPEG and/or PDF has been localised manually on the general mapping of the sanctuary. In collaboration with the French platform archeologie.culture.fr, developed with the help of the *Département de l'innovation numérique du secrétariat général*, a project coordinated by the *Département des affaires européennes et internationales*, our model is also to be integrated in the general mapping of the whole Palmyra site created by the French Département and the University of Lausanne. This collaboration aims to avoid the production of incompatible models. The use of the Potree web viewer also allows us to fulfil the international standards by giving access to the sources (pictures mostly) used to produce the 3D models for more transparency about the decision-making process.

To participate in fighting the illicit trade of cultural goods

We also produced the Collart-Palmyre Object Database (fig. 9) following the Object-ID international norm in order to align the project as closely as possible with the criteria used by law enforcement agencies. Some Palmyrene artefacts from the Baalshamin sanctuary were transferred in the 1950s to the local museum, and some sculptures had also been sent to the national museum in Damascus. As the museum in Palmyra was damaged by Da'ish, once the group left, the Syrian authorities transferred the remains of the local museum to Damascus. Our updated list of objects, with detailed state of preservation and inventory numbers (both of the excavation and of the Palmyra or Damascus museums) could help to identify missing or damaged pieces currently in Damascus.

To share our knowledge with future generations

The project of the University contributes to work on collective memory, and especially on cultural memory. The next generations, the future inhabitants of Syria and Palmyra who now live far from their homes, need this knowledge and these memories to recall their various identities. By working today on the history of the Temple of Baalshamin and by sharing its archives, the University of Lausanne aims to make this possible. Cultural memory is the way a society ensures cultural continuity by preserving, with the help of cultural mnemonics, its collective knowledge from one generation to the next. It is our duty to help people to construct their collective knowledge and to make sure this knowledge endures for the generations to come. In order to share the data of the archive


Fig. 8: Potree web viewer of the project.

Inventory

?
Designation: Sculpture; **Material:** Hard limestone

Sculpture base fragment with three human feets.
Designation: Sculpture; **Material:** Hard limestone; **Size in cm (Height x Length x Width):** 17 x 38 x 17; **Publication ID:** 153; **Description:** Sculpture base fragment with three human feets.

Sculpture fragment of a female's chest.
Designation: Sculpture; **Material:** Hard limestone; **Size in cm (Height x Length x Width):** 13 x 12.5 x 13.5; **Publication ID:** 148; **Description:** High relief fragment of a female's chest broken on all sides. Only the neck is preserved but the ear on the right is discernible and partly covered by a veil. Two collars can be seen around the neck. The bigger one is made of round shaped pearls, the small one holds an oval pendant.

Sculpture fragment of a male's head.
Designation: Sculpture; **Material:** Soft limestone; **Size in cm (Height x Length x Width):** 38 x 22 x 24; **Publication ID:** 82; **Description:** Sculpture fragment of a male's head broken at the beginning of the neck. The face is long and mutilated but the nose, the mouth and the cheeks are still very visible. The outer edge of the ears are broken. For rows of curls of hair are covering the head and half of the forehead. The eyes are widely open and incised circles surround both iris. Wrinkles can be seen around both sides of the mouth.

Sculpture fragment of a masculine head on a plate.
Designation: Sculpture; **Material:** Soft limestone; **Size in cm (Height x Length x Width):** 26 x 24 x 17.5; **Publication ID:** 107; **Description:** High relief fragment of a masculine head on a plate. The plaque is broken on the 4 sides. The nose of the statue is mutilated and scratches are visible on the forehead and on the cheeks. The hairs are made of 4 rows of curls. The eyes are wide open and the iris and the eyelids are depicted with incised circles. The statue's left eye is better preserved thant the left one. The moustach and the beard are made of carved lines.

Fig. 9: Screenshot of an inventory detail in the Collart-Palmyre Object Database (© ASA – UNIL).

تدمر
بالميرا

باتريك مكسيم ميشيل

Fig. 10: Cover of the Arabic Booklet (© ASA – UNIL).

Fig. 11: Virtual Reality experience by Archeovision (© Archeovision – UNIL).

with Syrian refugees and archaeologists keywords of the databases have been translated into Arabic. Furthermore, Syrians from Azraq have created texts and images which have been integrated into a pedagogical booklet in Arabic produced by the project for activities in refugee camps (fig. 10).

METHODOLOGIES

One of the main problems today is how to both preserve the monument itself and the digital replica. Concurrently, one must ask about the conservation of the cultural memory of the location for local people. To address these problems, the Collart-Palmyre Project has digitally published almost all the scientific data of Collart's archives: photos, plans and notebooks. Since 2017, the Project has made the archives accessible to researchers and Syrian refugees around the world on the aforementioned online *Tiresias* database.

Based on this material, 3D reconstructions of the Temple of Baalshamin have been realised. From a unique dataset of polygons, usable in a Blender file
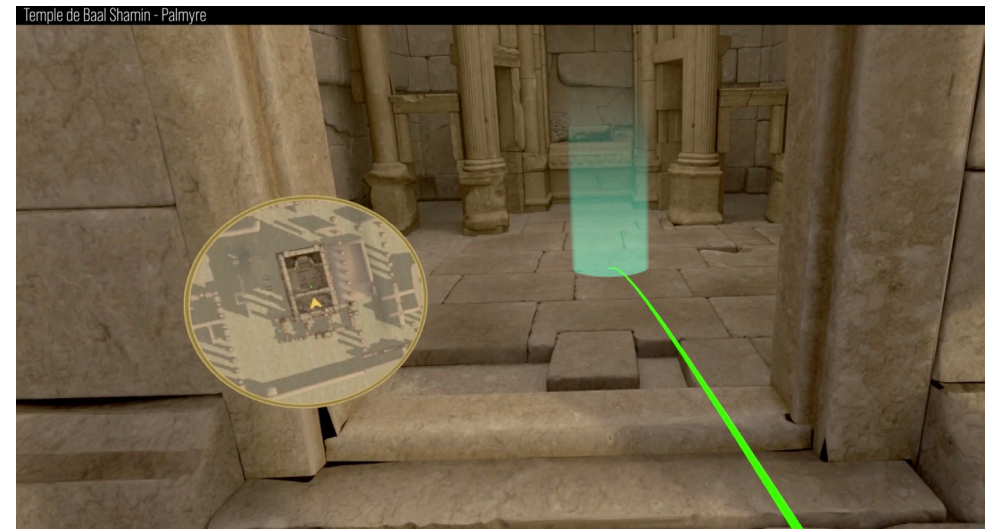
for example, and thanks to a wide variety of partnerships, we were able to create two Virtual Reality experiences and one Augmented Reality experience, and to publish our models on Sketchfab. The technical processing of this 3D modelling and the VR experience was completed by the French start-up ICONEM, Ubisoft and ArcheoVision (fig. 11). The Potree web viewer allows archival items to be geolocalised, associating them with the architectural or archaeological objects they document. Potree is a web-based point cloud viewer which allows users to stream extensive 3D models in a browser as you might stream a YouTube video. The simple implementation, building on open source tools, allows you to easily visualise and link complex objects and collections, promising to improve the way we capture, visualise, analyse, archive, and disseminate our data.

The challenge here was to access metadata on the 3D model and to ease access to the archives through online tools. The high poly digital model of the Baalshamin temple is composed of more than 61 billion polygons. A part of the model was hand drawn for accuracy. The model is accessible together with a photogrammetry of the actual state of preservation of the temple on the Potree platform.
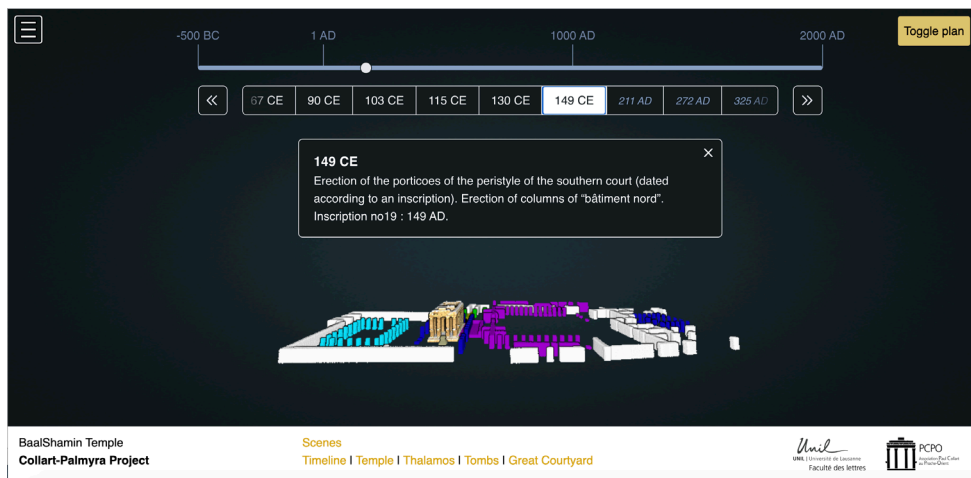
Fig. 12: Potree web viewer with timeline.

We also wanted to publish a diachronic 3D model showing the different periods of occupation of the site. The digital models reproduce then the story of the Baalshamin sanctuary from the second century BC until the ninth century AD. This range of time also includes the Byzantine reuse of the *cella* of the temple. The diachronicity of models is a way of linking different memories and identities to the same monuments used through centuries (fig. 12).

For sites under threat of disappearance, this technology guarantees that the archaeological knowledge is preserved. The whole memory of this area of Palmyra is held within a scientific tool for research and for future generations. Partnership with UNDP and local NGOs in Jordan, Turkey, Lebanon and Syria also permit the presentation of 3D models to displaced Syrian refugees located in camps, especially in Jordan, in the Spirit of the Faro Convention.

ETHIC

"Often, the communities that should benefit from such projects cannot access these heritage collections due to barriers created by memory institutions (museums, archive, university)" (Manzuch 2017, 11).

This remark from Zinaida Manzuch is very important. Access in terms of technologies and language is a real issue when dealing with archives outside the country where the research has been conducted. Our project takes this ethical issue into close consideration while dealing with the archive.

First, it takes into account the Faro Convention which "emphasises the important aspects of heritage as they relate to human rights and democracy. It promotes a wider understanding of heritage and its relationship to communities and society. The convention encourages us to recognise that objects and places are not, in themselves, what is important about cultural heritage. They are important because of the meanings and uses that people attach to them and the values they represent" (from https://www.coe.int/en/web/culture-and-heritage/faro-convention).

The convention was adopted by the Committee of Ministers of the Council of Europe in October 2005, and opened for signature to member states the same year, before entering into force in June 2011. The treaty is open for signature by the member states and for accession by the European Union and by the non-member states.
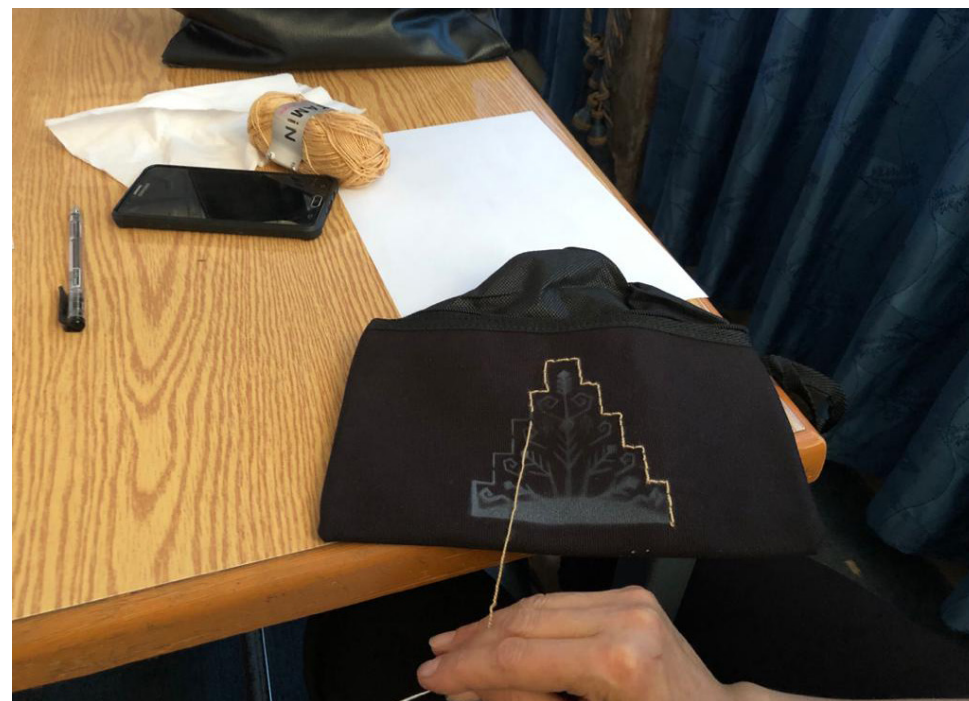

Fig. 13: The workshop held in Damascus in 2020 with UNDP (© UNDP – UNIL).

As stated on the webpage of the Council of Europe, the Faro Convention is "a 'framework convention' which defines issues at stake, general objectives and possible fields of intervention for member states to progress. Each State Party can decide on the most convenient means to implement the convention according to its legal or institutional frameworks, practices and specific experience. Compared to other conventions, the 'framework convention' does not create specific obligations for action. It suggests rather than imposes." (from https://www.coe.int/en/web/culture-and-heritage/faro-convention).

This convention offers different and creative means to manage heritage with the active involvement of local communities in order for heritage to contribute to the cultural dynamics of the communities. In this convention, the definition of 'heritage' is enhanced by including the principle of shared responsibility.

In order to follow the Faro Convention's spirit, and to integrate the populations and social groups directly affected by these cultural objects into the creation processes, we have worked with a local NGO and the Development Program of the United Nations (UNDP) and translated summaries of our activities and learning tools about the history of Palmyra into Arabic. The activity with UNDP was integrated with thematic days on 'Women's empowerment', during which the portraits of notable Syrian women figures were presented, particularly Queen Zenobia in Palmyra. Moreover, we developed a pedagogical booklet and an embroidery activity. Despite the challenges involved in organising such activities in Syria, this embroidery activity has been run in several Syrian cities, such as Aleppo, Hama, Damascus, and its suburbs, Sweida and Quneitra, and later in Jordan (Azraq). It was well received and participants shared their positive messages. Some messages that we received from participants after the activity were very precious for us. For example: "I would like to thank everyone who supports and loves and talks about Syria. And thanks to Lozan University [*sic*, University of Lausanne] because it talked about the Syrian monuments and history. Thank you very much."

In a first collaboration with the MIT Future Heritage Lab in Boston in 2019, we produced an embroidery pattern, the iconography of which is inspired by the decoration of the Baalshamin temple. The embroidery project focusing on this heritage took place in several places in the Middle East, including the Idlib Region in Syria. The Collart-Palmyre Project produced an Arabic pedagogical booklet about the history of Palmyra with an emphasis on the multicultural aspects of the city during antiquity. This booklet also functions as an educational tool with explanations accompanying the embroidery activity. While dealing with the issue of the conservation of cultural memory, we came up with the idea of linking intangible and tangible heritage. We decided to use ornamental designs from the now destroyed Baalshamin temple to produce embroidery patterns. The iconographic repertoire of motifs in ancient Palmyra was the same for architecture and for textile (Schmidt-Colinet 2019, 477–485).
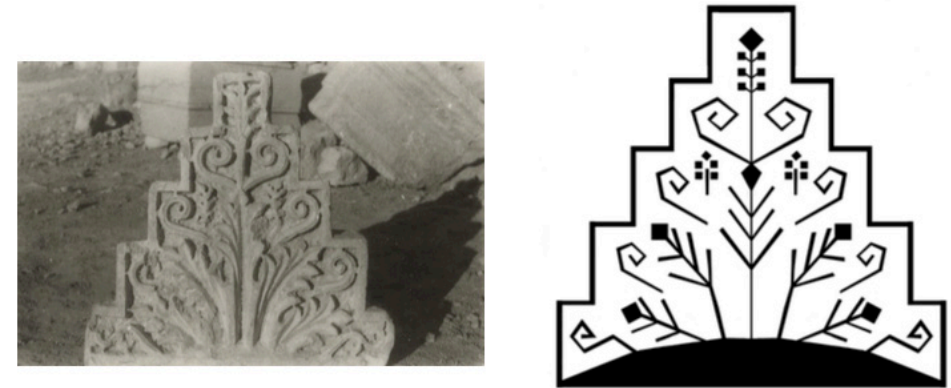

Fig. 14: Canevas for embroidery and merlon (© ASA – UNIL).

Fig. 15: The workshop organized in Azraq in 2021 (© UNIL – CARE).

Therefore, we produced models and canvases to be used for embroidery in the refugee camps or schools. These patterns lead to activities which take into account tangible and intangible heritage. In turn, it helps to integrate the cultural value of the Baalshamin temple, as part of the collective past of Syria, with the local tradition of embroidery.

That is a crucial point in the education of the next generations. Life in refugee camps is more than difficult, and people have little to occupy their time with. That is why we are participating in creating a place where culture could be expressed. With the help of images of the virtually reconstructed temple, we also hope to create intergenerational dialogue. With IULM University of Milan (Libera Università di Lingue e Comunicazione), the InZone program from the University of Geneva, and an art therapist, Syrian refugees created images that have been included in the latest edition of the Arabic booklet. InZone is "a programme of the University of Geneva (UNIGE) which pioneers innovative approaches to higher education in communities affected by conflict and humanitarian crisis" (from https://www.unige.ch/inzone/). It facilitates the delivery of contextualised, safe and inclusive quality tertiary education and, in a collaborative approach, encourages its target groups to transform evidence and knowledge into finding and creating relevant solutions for themselves and their communities.

The Cooperative for Assistance and Relief Everywhere (CARE) Inc. is a non-profit organisation and a global leader within a worldwide movement dedicated to ending poverty. Through its Jordan Office (CARE Jordan), it provides various life-saving community services to refugees and, under UNHCR mandate, plays an active role in education in Jordan. CARE and UNIGE have been working collaboratively in the Azraq refugee camp since 2017 to offer quality higher education programmes to Syrian refugee populations. They operate through a fully equipped, connected learning centre located in Village 3, which has previously hosted the University of Lausanne Collart-Palmyre activities designed to preserve Syrian cultural heritage and help develop resilience.

Secondly, the question of the authenticity of replicas is at the heart of the debate on the safeguarding of heritage. Experts have been involved in this debate, which led to a founding text: the Nara Conference (1994) based on the Venice Charter (1964). As early as 1970, the World Heritage Committee included the notion of 'authenticity' in its texts (Operational Guidelines). This question, which originally concerned the reconstruction of historic buildings,

Fig. 16: Fatimah showing her work in the Arabic Booklet in Azraq, 2022 (© Patrick M. Michel).

now also applies to digital replicas of cultural property. How can a digital replica of a monument be considered as authentic or, more broadly, capable of participating in the memorial transmission of a culture or in the reconstruction of identity in a post-conflict context? Paradoxically, the digital replica constitutes a conceptual threat to the authenticity of material heritage, as 'aura'[3] and authorship compete. Following Manzuch (2017, 9), authenticity is defined as the "quality in a thing of being what it claims to be (...) through a process of investigation known as authentication." Thus, we are faced with the challenge to maintain the authenticity of the object in its original meaning, despite the fact that the notion of authenticity is a social construct (Manzuch 2017, 10).

As stated in our general presentation of an exhibition called 'Deepfakes: Art and Its Double' (EPFL Pavilion in collaboration with the University of Lausanne, September 17th 2021 to May 1st 2022, see https://www.e-flux.com/announcements/412323/deep-fakes-art-and-its-double/), digital facsimiles decolonise matter as they defy hegemonic narratives, helping to liberate things from their colonial entrapments, confronting authoritative discourses, historical sedimentation, and uncontested social relations. Indeed, digital media can be used to create spaces or platforms for those who have been excluded from dominant narratives of history, for example. The use of digital tools for decolonisation is also confronting hegemonic narratives to liberate objects from their untroubled entrapments: ownership and/or uncontested social relations. In making reparation for the past while emancipating communities in the present, digital facsimiles can be very potent and useful. But, postcolonial reconciliation heritage can only succeed if it happens on the terms set by the once-colonised community and, moreover, for their benefit. The access guaranteed to the documents via our online platform is a way to decolonise the archive. A translation into Arabic of the keywords in the database has been produced together with Syrian refugees and is available online in order to facilitate the use of the database.

CONCLUSION

In this project, we consider the ethical issues in the digitisation of cultural heritage. The virtual 'return' of cultural heritage that was displaced or destroyed is a great opportunity, but this opportunity may also create new inequalities (Manzuch 2017, 11). We often use our own language or expensive software and, therefore, limit access. The digital doubles are then created outside their original context and far from people and communities who need them. In trying

to address these conflicting views, we have developed a unique theoretical and curatorial framework for memory mobility in digital heritage.

We must also bear in mind that we use metadata schemas, common to the Western world, to describe and arrange indigenous heritage. This way of operating has a destructive impact on community culture and challenges its integrity.

The critical investigation of questions of digital heritage, collective memory, authenticity, and exploitation are:

- to examine the capacity of virtual models to act as vessels for mobile migrant memories;
- to study the potential of digital models to migrate memory and safeguard these as intangible 'heritage at risk';
- to interrogate the notion of the 'aura' and authenticity of digital heritage virtual counterparts.[4]

Aside from the scientific value of our work on the Baalshamin temple, the aim of the digital doubles is to keep the monument's memory alive throughout its history, including its destruction and the only way to do so is to use virtual models. We should, then, study the differences and connections between digital and physical heritage. Through the investigation of the mobility of memory in digital heritage reconstruction and the questions of the authentic transmission of memory via digital objects, this study became a sociological one. This is also why we translated a part of our research into Arabic and produced embroidery activities for refugees and young generations in camps. We produced an embroidery pattern inspired by the decoration of the destroyed Temple of Baalshamin (a merlon of the temple). The idea is to show how, in antiquity, motifs from textiles already inspired the decoration of buildings in architecture. By producing such an activity, teenagers and children can work on both material-tangible and immaterial-intangible cultural heritage. That is a crucial point in the education of the next generations.

The meaning of the activity is rooted in the fact that this tradition, the ornamental connection between textiles and buildings, comes from the ancient site itself. It is a humble way to deal with cultural heritage and local communities, in their language, to link the memory of a destroyed and displaced heritage to the memory of the local communities.

Finally, we are grateful to participate in the fight against the illicit trafficking of cultural goods by publishing our inventories and sharing information.

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NOTES

[1] A triple apse had been constructed by the Byzantines in front of the temple, destroying the inner part of the temple (Collart and Vicari 1969, 16). This Byzantine structure was then dismantled again by Collart in order to restore the Roman temple. A slightly different reconstruction of the *thalamos* was published by Michel Gawlikowski and Michal Pietrzykowski (1980, 421–452).

[2] The goal of the proposal presented is to compare images of the reconstruction with the sources and to link them to a written text (argumentation), which explains upon what basis, including sources, analogies, etc. the reconstruction was made. The core is therefore the triad 'Reconstruction – Argumentation – Source'. In addition, there exists the possibility to also depict variants for the different areas of a reconstructed building. The advantage of such a documentation method is that it would be theoretically usable for every kind of architectural reconstruction and thus also for haptic models, reconstruction drawings or actually built structures. The technical goal is a web-linked database that can serve as a platform for work, publication and discussion.

[3] Aura is a quality integral to an artwork that cannot be communicated through mechanical reproduction, see https://www.tate.org.uk/art/art-terms/a/aura.

[4] 'Mobility, Materiality, Memory' research in collaboration with Sarah Kenderine.

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