Shattered and Restored

*Through Shattered Glass;* an interdisciplinary workshop focused on ancient glass fragments, their analysis, reconstruction and conservation, January 17–18, 2022.
The AUB Archaeological Museum suffered significant damage in the August 4, 2020, explosion. Most devastatingly, the blast toppled a critical showcase containing 74 well-preserved archaeological glass vessels from the Early Roman, Byzantine, and Islamic periods. All but two of these priceless, irreplaceable artifacts were shattered. When we lifted the showcase from the floor a month later, underneath we found pure chaos. Thousands of glass shards from the precious vessels were mixed up with the glass from the showcase panels and shelves, and from surrounding broken glass windows. We were literally swimming in a sea of glass!

In modern physics, “chaos” is potential order where an outcome is bound up within a set of initial conditions; this is not the same as “disorder”. The popular concept of “disorder” is the lack of relationship between pieces, a jumble of elements, or the absence of pattern.
What we saw went beyond disorder; it felt more like entropy or the gradual decline into disorder crystallizing somehow the dismemberment of Lebanon. So, which was it—chaos, disorder, or entropy?

Another popular concept wrongfully attributes the saying: Order from Chaos to Nietzsche, who celebrated the bit of chaos that goes beyond our tidy and too facile picture of the world. He argued that anything that does not grow or reinvent itself is lifeless and at a dead end.

Out of these thousands of minute shards, thanks to interdisciplinarity and outstanding teamwork, came repair and restitution drawn from the knowledge that arises across the academic disciplines, through examining the common ground or tensions between them, and resolving the area of concern across these disciplines.
Hence, this unprecedented workshop, entitled Through Shattered Glass, was made possible thanks to multiple collaborations that have taken place to help our museum recover from the painful blow, and builds on these collaborations with sessions on the archaeology and typology of ancient glass in our region, the cutting-edge restoration techniques that have been used, and how this disaster can actually lead us to better understand ancient glass-working procedures.

Thanks and gratefulness are due to all our partners in this innovative approach:
The first collaboration with the French Institut National du Patrimoine, funded by ALIPH, in September 2020, oversaw the painstaking sifting through thousands of glass fragments from the mixed debris, which included glass from the showcase and its shelves, the surrounding windows, and the archaeological artifacts themselves, which were collected, identified, and packed with proper material flown to Lebanon by the mission. That first phase of the project was a learning case study, approached forensically by picking up the fragments as if they were on a field archaeological excavation, using horizontal stratigraphical layers. This strategy facilitated the identification of the fragments with their original inventory number. Most glass vessels were catalogued as shattered beyond repair, with only 18 items being salvageable.

Glass conservator Claire Cuyaubère sorts through shards to recover ancient broken glass vessels
• The second mission
was organized in June-July 2021 and saw hundreds of the glass fragments pieced back together and 10 glass vessels restored by the INP experts again funded by ALIPH and the AUB Museum team with the support of archaeology students. This led to the design of a new field course in partnership with the Department of History and Archaeology at the AUB Faculty of Arts and Sciences (FAS).

Glass vessels restored by INP experts Claire Cuyaubère and Cécile Rodier after the August 4, 2020 Beirut blast
• **The third mission**

in partnership with the DIgiTal Cultural Heritage (DITCH) center at AUB’s Maroun Semaan Faculty of Engineering and Architecture (MSFEA), is focused on overseeing student projects to develop virtual 3D reconstructions of selected broken glass vessels.

First attempts of 3D reconstructions of the broken glass vessels by AUB students Alaa Abboud and Amin Berjaoui from the Department of Mechanical Engineering (work in progress).
• **The fourth mission**

in partnership with the AUB Department of Physics at FAS and the Science and Technology in Archaeology and Culture Research Center (STARC) at the Cyprus Institute, will be to conduct an analysis of the chemical composition of the fragments and shards originating from the shattered glass objects. Emphasis will be put on non-invasive analysis, with invasive sampling restricted to those fragments that cannot be restored.

AUB physics research assistant Sahag Bozoian and Levon Kalaydjian conducting analysis using XRF machine
The fifth mission saw the British Museum, funded by The European Fine Art Fair (TEFAF) stepping in to restore eight vessels, those suitable for shipment to London for restoration by the conservation laboratories of the British Museum. Once the glass vessels are fully restored, they will go on temporary display at the British Museum “ROOM 3” before traveling back to Beirut. The British Museum is also graciously offering to train AUB Museum assistant Aimée Bou Rizk.

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Broken fragments packed by the French team, ready to be shipped to the British Museum
The exhibition at the British Museum is currently being cocurated by Curator Nadine Panayot, James Fraser, curator for the Ancient Levant and Anatolia, and Zeina Klink-Hope, Phyllis Bishop curator for the Modern Middle East, to tell the story of the AUB glass recovery to a global audience.

Announcement of TEFAF’s Talks with the Financial Times.
• **The sixth mission**

an experiential one, welcomed renowned scholar Stephen Koob, recently retired as chief conservator from the Corning Museum of Glass in New York, and Conservator Claire Cuyaubère from the INP graciously volunteering their time and expertise for a period of two weeks and restoring six broken glass artifacts, taught an intensive hands-on course on glass restoration to specialist and non-specialists, and participated in person at the international workshop.

Stephen Koob and Claire Cuyaubère taught a course on glass restoration to specialist and non-specialist participants.
“If time is part of healing, sorting through matter is part of mourning.”

New York Magazine
Experimental Significance

The various initiatives described above stem from the catastrophic August 4, 2020, event and its dire consequences on tangible and movable heritage, developing organically around the shattered glass collection at the AUB Archaeological Museum. They are building blocks for a long-term strategy to reconstruct the past by connecting it to the present. The documentation of the destruction of this material culture, and its restoration and new valorization through different scientific approaches, grants archaeological materials a healing mission beyond their scientific and academic values.

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Description of the workshop

The American University of Beirut (AUB) Archaeological Museum aims at collaborating with multiple working groups across AUB and beyond, offering material culture for assessment, analysis, and publication with the clear objective of preserving, conserving, restoring, and disseminating the value and relevance of cultural heritage.

Therefore, the AUB Archaeological Museum in collaboration with the Science and Technology in Archaeology and Culture Research Center (STARC) of the Cyprus Institute, the Institute of Archaeology at the University of Trier, The Institut Français du Proche-Orient, the Center For Advanced Mathematical Sciences (CAMS), the DIgiTal Cultural Heritage (DITCH) center at the Maroun Semaan Faculty of Engineering and Architecture (MSFEA),
the Department of Physics, and the Department of History and Archeology at the Faculty of Arts and Sciences (FAS) at AUB, has organized an international and multidisciplinary workshop inviting specialists to guide and support the field of experiential and multilayered glass study.

This workshop is a first step of a series of future initiatives to implement interdisciplinary investigations across faculties.

Four axes were explored over two days

- Archaeology/typology of glass
- Glass restoration
- Material science and glass
- Computer vision and glass reconstruction

Watch the videos of the workshop:

Day 1, Click here
Day 2, Click here
Restoration of the broken glass vessels with Chief Conservator Stephen Koob and Conservator Claire Cuyaubère

January 4, 2022

Video by U.S. Embassy Beirut on Stephen Koob and his help in restoring broken glass vessels

Click here
Beirut Glass Project at the British Museum

March 28, 2022–April 19, 2022

An update from AUB Museum’s Aimée Bou Rizk who joined the conservation team working in London.

The eight objects arrived safely to the British Museum from Beirut on December 16, 2021.

Glass Restoration Expert Claire Cuyaubère arrived in London on Sunday March 27, 2022. We received a warm welcome from everybody at the British Museum (BM) where Duygu Camurcuoglu and Loretta Hogan, conservators at the BM, helped us with everything we needed to get started. Work on the glass began on April 1, 2022.
The Beirut Glass Project has its own room in the BM conservation studio floor. It is a spacious room with large tables and flat surfaces on which to spread out the glass, along with all the conservation materials and devices needed. The six boxes containing the eight glass objects were on the tables waiting for us to begin unpacking. We arranged the conservation studio with Claire, organizing foam on the tables, preparing the trays, and setting up the photography corner.

Small cup inv. #5964
The first two objects we removed from the boxes were the small cup inv. #5964 and the blue ripped bowl inv. #3925. All their fragments were carefully arranged on trays with no loses to report. The third was the big plate inv. #3653. We took out the fragments according to the puzzle work that had been done before the packing in Beirut, placing the fragments directly on the photography corner to take a photo of the object before treatment.

Blue ripped bowl inv. #3925

Big plate inv. #3653
This object was a little bit tricky with lots of fragments, so the puzzle work was extremely tedious. After completing an approximated puzzle work, we took a photo of the object before treatment, and Claire did more puzzle work on the plate the following days.

The next three objects removed from the boxes were the yellow beaker inv. #4218, the Islamic bottle inv. #4536, and the long flask inv. #4150. We worked on their respective puzzles arranging the fragments on the trays according to their correct placement.
After some surface cleaning, the first object Claire put back together was the blue ripped bowl inv. #3925 followed by the small cup inv. #5964.

As scientific analysis is being carried out in parallel with the restoration work, we took samples of soil from the jug inv. #4143 and samples of soil and exterior deposits from the bottle inv. #4536 for the science department. There, Reflectance Transformation Imaging (RTI) was performed on one fragment from the blue ripped bowl inv. #3925 and two from the yellow beaker inv. #4218.

So, until now, two objects have been restored, six are out of their boxes, and scientific analysis is in process.
Museum in the Media

**Article on the International Colloquium “Through Shattered Glass”**  
*Jan. 18, 2022*

L’Orient Le Jour:
Musée de l’AUB : un nouveau souffle pour les verres antiques balayés par les explosions du 4 août 2020  
by May Makarem

*Click here*

**Article by Claire Cuyaubère:**

« Sauvetage et conservation-restauration de verres du musée archéologique de l’Université Américaine de Beyrouth après l’explosion du 4 août 2020 »  
Publication: November 2022

**Report on the AUB Archaeological Museum by Iraqia Beirut**

شبكة الإعلام العراقي - قناة العراقية مكتب بيروت  
(Amin Nasser)

**Articles and videos on the International women’s day:**  
*March 8, 2022*

ICI Beyrouth: “Mother Earth”, l’installation/sculpture d’Andrée Hochar Fattal by May Geha Badawi

*Click here*
March 10, 2022:
Nidaalwatan Watch

video

احتفالاً بالمرأة في الجامعة الأميركية في بيروت

“أمنا الأرض” و “يوميات شهرزاد”

تقرير: جورج بوعبدو

March 10, 2022:
Nidaalwatan

Click here

أمنا الأرض” و “يوميات شهرزاد” احتفالاً بالمرأة في

الجامعة الأميركية في بيروت

Snippets from the guided tour of Andrée Hochar Fattal’s Mother Earth exhibition by Dr. Nadine Panayot, curator of the AUB Archaeological Museum:

Link 1
Link 2
Link 3
Link 4
الدورة الاقتصادية:
معرض، أمينا الأرض لمنحوتات أندره هوشار فتال في متحف الجامعة الأميركية في بيروت

Link 1
Link 2
adwaaalkhalej.press/archives/7990
minbeirut.online/archives/15801
alnarjes.online/archives/22305

Inauguration au Musée Archéologique de l’AUB de Mother Earth, une installation des sculptures d’Andrée Hochar Fattal

Click here

International Museum Day (May 18, 2022): Cette semaine, nous irons au musée!

18 mai 2022

Click here

إلى المتاحف د.ر: دعوة من وزارة الثقافة لغاية ٣٧ أيار... وأharga “ضابطة لليقاع” ليوم واحد

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