

After the earthquake

A proposal for the packing, transportation and future display of a damaged object from the Zagreb Museum of Arts and Crafts

Bruna Vladović, student
Sagita Mirjam Sunara, PhD, Assistant Professor

University of Split, Arts Academy

» Introduction

On March 22nd 2020, Croatia's capital, Zagreb, was hit by an earthquake measuring 5,5 on the Richter scale. The epicentre was just 7 km north of the city centre. Numerous residential and public buildings were damaged.

The earthquake also inflicted damage on museum collections. The museums shared images of damaged objects on social media platforms. This helped raise the awareness of the scope of the damage they had suffered.

The conservation-restoration community outside Zagreb was eager to help, but could not assist in salvage operations because of in-country travel restrictions. (The earthquake occurred amidst the first Covid-19 lockdown.) We could not physically help our colleagues in Zagreb, but we could reflect on what we would do if we found ourselves in their situation, and on what we *should* do to make our collections more earthquake-resistant.

Those were the central questions of a **problem-based learning exercise** that was devised as a part of the second-year course in preventive conservation at the Arts Academy in Split.

Each student was provided with a photograph of a damaged object (or a group of objects) from one of the museums in Zagreb. The photographs were sourced from the museums' Facebook pages. In the first part of the assignment, each student was asked to **write guidelines for the packing and transportation of the damaged object(s) to a conservation-restoration studio outside Zagreb**. Students were explained that they would not be able to carry out or oversee the packing and transportation of the damaged artefact(s) due to travel restrictions. They were required to produce extremely detailed instructions so that even an untrained person could perform the task. The second part of the assignment consisted of **drafting a proposal for the future seismic protection of the object in question**.



Figure 1



Figure 2

» Case study: an 18th-century longcase clock from the Zagreb Museum of Arts and Crafts

The building of the Zagreb Museum of Arts and Crafts suffered severe damage. A number of museum objects were affected as well. In the clock collection, one of the worst damaged exhibits was a longcase clock fabricated in London around 1710 (inventory number MUO-015560). The object is made of wood, metal and glass. It is very tall (248 cm), but has a small base. During the earthquake the object overturned and fell on its front. The hood (the uppermost part of the object) shattered into pieces.



» Methodology



Collecting information about the object from freely available online sources

- Basic information about the object was collected from the museum's online database (FIGURE 1). The representative photograph revealed the pre-damage condition of the object.
- The key source for this assignment was a photograph of the damaged object that the museum posted on its Facebook page (FIGURE 2). It showed very clearly the severity of damage to the object.
- Another useful resource was the 360-degree view of the museum's permanent display, available through Google Arts & Culture (FIGURE 3). This helped in the understanding of how the object was displayed.

Literature research on earthquake damage mitigation

- In developing a proposal for displaying the object in such a way as to mitigate seismic damage in the future, the following paper proved very useful: McKenzie Lowry, BJ Farrar, David Armendariz and Jerry Podany, 2007. "Protecting Collections in the J. Paul Getty Museum from Earthquake Damage." *Western Association for Art Conservation Newsletter*, vol. 29, no. 3, pp. 16–23.



Figure 3 A 360-degree view of the permanent display of the clock collection at the Zagreb Museum of Arts and Crafts. Source: Google Arts & Culture. Screenshot by Bruna Vrljićak.

» A proposal for packing and transport

- Before any action is taken, the object should be thoroughly photographed.
- Since the object is broken into many pieces, it would be advisable to first collect the pieces that are in more danger of getting lost. Several boxes should be prepared, and the fragments should be packed according to the material (glass, wood, metal). Each box should be marked with the object's inventory number. Information about the content of the box should also be added.
- All pieces of broken glass should be collected and placed in one box. The pieces should not be stacked on top of each other, but interleaved with sheets of Tyvek. To avoid movement in the box during transport, a piece of polyethylene foam should be placed on top of the fragments. The box should be tightly closed.
- Another box should be prepared for the transport of the detached wooden elements. The box should be padded with flexible polyethylene foam to avoid damage to the wood finish. The broken pieces should be wrapped in Melinex, placed in the box, and separated from one another with polyethylene foam.
- After the longcase clock is turned onto its back, the condition of the movement should be checked. If the movement has become detached from the hood, it should be taken out and placed in a crate, along with any other elements that might have separated from it. (The crate should be lined with polyethylene foam.) The weights and pendulum should also be taken out and put in the crate.
- Lastly, the 'intact' part of the clock trunk should be placed in a large crate padded with polyethylene foam. At least two people should carry out this operation, as the object is big and probably heavy.
- All the boxes/containers should be stored at the same location until they are transported to the conservation-restoration studio. The storage location has to be climate controlled and secure.
- When the boxes are handed over to the transportation company, it should be stressed that their contents are fragile and they must be handled with greatest care.
- Copies of all available documentation of the object should be sent to the conservation-restoration studio.

» A proposal for future display

- Without a thorough understanding of the mechanics of seismic events in the Zagreb area and of the 'anatomy' of the object in question, it is very difficult to propose how the object should be displayed to avoid earthquake damage in the future.
- The key issues with this object seem to be its height (as compared to its small footprint) and the rigidity of its construction materials. It can be assumed that the movement is very heavy, which would mean that the object has a high centre of gravity. Because of these characteristics, the object should probably not be anchored to the floor or secured to the wall, as even the slightest vibrations could cause the material to break and/or joints to open.



Figure 4 Apartment buildings colloquially known as the 'Rockets', in Zagreb, Croatia. Source: Wikipedia. Available at: <https://commons.wikimedia.org/wiki/File:Richterovi_neboderi_Zagreb.JPG>

- What could be an appropriate solution? Inspiration was found in the city of Zagreb, namely in the "Rockets". These are three 1960s apartment buildings that have external buttresses at the four corners (FIGURE 4). These external buttresses make the buildings more earthquake resistant.
- They are usually made of steel, brass, aluminium or acrylic, and their interior surfaces are felted. In this case, the material should be selected in consultation with the curator and the display designer. The display designer should also provide guidelines for the design of the 'outer' form of the contour mount.
- A contour mount is therefore proposed for the object in question. Contour mounts are supportive restraints that follow the object's exterior form.