

Summary:

ZAGREB 2020 EARTHQUAKE AND THE BUILT HERITAGE

On the cusp of the 140th anniversary of the earthquake that hit Zagreb and its surroundings on 9 November 1880, the city was again hit by this natural disaster on 22 March 2020, at 6:24 in the morning. This year's earthquake lasted only ten seconds, but due to the fact that its measured magnitude was 5.5 on the Richter scale, and that its epicentre was relatively close to the city centre (in the north-eastern quarter of Zagreb called Markuševac), it severely damaged numerous architectural monuments, especially those within the area of the Historical Urban Ensemble of Zagreb („Povijesna urbana cjelina“ Zagreba).

This area includes the state protected core of the city, which consists of the historic districts of Gornji grad (Upper Town), Donji grad (Lower Town) and Kaptol. The first quake was followed half an hour later by another earthquake with a magnitude of 5.00 on the Richter scale, and in the weeks and months that followed, a series of aftershocks hit the city.

Although this year's earthquake was significantly weaker than the aforementioned 1880 earthquake (which reached a magnitude of 6.3 on the Richter scale), the total damage that occurred due to this most recent disaster is much greater, because Zagreb has grown many times over in the past century and a half. In the early 1880s it had just over 30,000 inhabitants and a new city centre, the Lower Town, was just beginning to form, as were the quarters north of the Upper Town and Kaptol, where numerous villas would be built in the late 19th and early 20th centuries.

Kaptol, a part of the city that is largely owned by various institutions of the Catholic Church (mostly by the Zagreb Archdiocese) was particularly badly damaged, especially the cathedral, the most important church building in the city. The question being asked now is whether the damage would have been even greater had the reconstruction of the cathedral after the 1880 earthquake not included radical modernization of the vaults and walls. These updates were

„Glavu gore“, grafit na kući
Gavella na Trgu bana Jelačića,
snimljen 28. ožujka 2020.

extremely criticized, but they strengthened the building, protecting it from more severe harm during this year's quake.

After this year's initial earthquake, the cross-adorned top of the south tower fell from the cathedral. It toppled onto one of the gables on the south side of the building and on the archbishop's residence heavily damaging them. On the north tower, the top remained standing, but it was so severely weakened that it had to be removed on April 17, 2020. As fate would have it, this removal happened exactly on the anniversary of the 19th-century cathedral restorer architect Herman Bollé's death.

The remaining smaller cathedral towers located around the sanctuary, which contain staircases leading to the roof, also partially collapsed in the quake. Impact on the interior seemed minor at first, but subsequent examinations showed some of the vaults to be damaged, mostly those located in the sanctuary and in the westernmost part of the church. A number of stained glass windows in the apse of the cathedral, valuable works made by a company from Munich in the late 1840s, were also harmed.

In addition to the cathedral, the archbishop's residence, especially its main south wing overlooking the city, is extremely damaged. It is the largest baroque palace in Croatia, built in part directly over defensive walls from the 16th century. In the building, the corridor vaults in the south wing facing the cathedral cracked down the middle. Furthermore, lavishly decorated rooms furnished with 19th-century furniture and numerous works of art were damaged, and the main gable executed during the restoration of the residence after the 1880 earthquake collapsed. Only the Neo-Renaissance ceremonial room, built by the aforementioned architect Herman Bollé during his restoration, remained almost intact.

Of the other buildings in Kaptol, the Franciscan church also suffered great destruction. Like the cathedral, it is a Gothic building that was thoroughly restored by Bollé in the late 19th and early 20th centuries. A number of the vaults in the church—as well as the tower—cracked, and a piece of the main gable fell.

In the Upper Town, in the most important monument of Baroque sacral architecture in Zagreb, the former Jesuit church of St. Catherine's vaults are heavily damaged (part of the stucco and paintings fell from the vaults), as well as the 18th-century marble altar of St. Ignatius Loyola. The vaults in St. Mark's parish church also suffered, but the damages are not as great as those on other older sacral buildings in the centre of Zagreb.

In the Lower Town, in the Jesuit Church of the Sacred Heart of Jesus on Palmotićeva Street (built in the neo-Baroque style at the beginning of the 20th century), vaults in the western part of the church completely collapsed, and cracks appeared in a number of other places as well. Of the older churches of

the Lower Town, the least affected is the neo-Byzantine Orthodox Church of the Transfiguration. The destruction there is nevertheless considerable; the bell tower has been weakened, and part of the plaster and frescoes from the nave vaults has fallen. The frescoes are of a more recent date, made in 2005–2007 by the Russian painter Nikolai Mukhin. When the plaster fell, it damaged 19th-century carpentry and furnishings below.

In the northern part of the city, located on the slopes of Sljeme Mountain, a great deal of damage occurred to the parish churches in Čučerje, Granešina, and Markuševac, as well as in the former Pauline church in Remete.

On public, residential, and commercial buildings, the greatest harm from the earthquake occurred due to falling chimneys, gable walls and cornices that toppled from the roofs of buildings into courtyards and streets. Although some recently renovated buildings were damaged, the greatest compromise occurred in buildings that were neglected, especially those in the historical core of Zagreb.

It is almost impossible to count all the damaged public buildings, so only the most important ones are mentioned here. Part of the architectural decoration fell on surrounding streets from the Ministry of Finance building, a massive neoclassical palace built by Hungarian architect Lajos Zobel in the early 20th century, and the Main Post Office building (designed by Budapest architects Ernő Foerk and Gyula Sándy). In the Neo-Renaissance palace of the Croatian Academy of Sciences and Arts, the work of the Viennese architect Friedrich von Schmidt, the greatest destruction was caused by chimneys that fell and broke the glass roof of the atrium. The building of the Croatian Parliament, the Ban-ski dvori (the seat of the Croatian government), the Ministry of Foreign Affairs, and the centre of the University of Zagreb, were also damaged. Surprisingly, the Croatian National Theatre (the work of the famous Viennese architectural firm Fellner & Helmer) did not suffer major harm.

Almost all of Zagreb's museums suffered to some degree. In the Archaeological Museum, not only was the building affected, but part of the collection as well; numerous antique vases were broken. The holdings of the Natural History Museum and the Museum of Arts and Crafts were also heavily damaged. The Croatian History Museum, the Croatian School Museum and even the recently renovated Art Pavilion had to be closed due to the extensive damage. Only Klovićevi dvori Gallery, the Modern Gallery, the Ethnographic Museum, the Museum of Contemporary Art and the Museum of the City of Zagreb suffered minor harm and were able to continue to organize exhibitions.

Due to the fact that it is closer to the epicentre of the earthquake, the complex of Zagreb's Mirogoj cemetery, certainly the most important architectural monument of 19th-century Zagreb, with monumental arcades and

pavilions built from the late 1870s to the late 1930s, was extremely damaged. The northern part of the arcades suffered the most, but destruction is clearly visible throughout the cemetery. Numerous tombstones and sculptures lay overturned. The damage to Mirogoj is largely the result of the neglect of this necropolis, which cried out for a thorough restoration before the earthquake.

Among the earthquake-affected residential and commercial buildings, which are impossible to count, are some of the key examples of the Croatian architecture of historicism and secession. Numerous towers, domes, gables, vases, balustrades, and sculptures—characteristic elements of late 19th- and early 20th-century architectural decoration—collapsed in the quake or became so unstable that they had to be removed. The skyline of Zagreb has thus been significantly changed but it is hoped that its characteristic appearance will be restored.

Parts of the city built after the Second World War, especially since the mid-1960s (also the period after the earthquake in Skopje, previously located in Yugoslavia and today in North Macedonia) when stricter anti-earthquake measures began to be applied, have hardly been disturbed. Reinforced concrete structures of apartment and public buildings in newer neighbourhoods proved to be quite resistant to earthquakes. These buildings and neighbourhoods, though often despised, actually provide a very high standard of living; they have since been re-evaluated as a desirable and at least somewhat safer place to live.

The degree of harm to buildings in the centre of Zagreb varies from case to case. Although traditional construction techniques and materials cannot provide complete earthquake safety, decades of neglect, especially of residential and commercial buildings, as well as illegal or poor-quality additions, undoubtedly played a key role in causing great destruction to a number of buildings. Their reconstruction will surely be the biggest problem in the years to come. Although the Law on Reconstruction of Damaged Buildings, prohibits the construction of new—and the extension of existing—buildings in the protected centre zone without a special permit, the poor condition of buildings and financial inability of many owners to rebuild will certainly lead to the removal of many buildings. Given the fact that Zagreb is characterized by exceptionally preserved historic areas from the 18th, 19th and first half of the 20th centuries (which have been the main generator of tourism development in recent years), it is hoped that most of the buildings will be restored in order to preserve the characteristic vistas of the city. Art historians, architects, preservationists and others have been working intensively for months on raising public awareness of the need to preserve and restore the historic core of the city.

Even before the Law on Reconstruction has been approved, the restoration of buildings began. The owners of apartments and houses in the centre,

largely with their own funds (with help from public services and volunteers), have already begun repairing their homes. These efforts are a good sign that most of the affected buildings will be preserved and restored. It is hoped that, in accordance with the aforementioned Law, the renovation will be thorough, that not only cosmetic repairs will be carried out, but that the buildings will be strengthened and their earthquake resistance increased.⁶⁵⁸

⁶⁵⁸ Izvornik: “Update: Rebuilding Zagreb after the 2020 Earthquake”, *News in Conservation*, 79, 2020, 16–20.