

When a city falls – the Christchurch earthquakes 2010 and 2011

Lynn Campbell

At 5.43 on Saturday 4th September, 2010, the Canterbury district in New Zealand was shaken by a 7.1 magnitude earthquake. The epicentre was located 40 kilometres west of Christchurch and had a focal depth of 10 km causing widespread damage which affected the whole of the South Island. No one died during this earthquake but buildings were badly damaged. On December 26th there was another big aftershock but again with no loss of life. However on the 22nd of February at 12.55 pm there was a 6.3 magnitude aftershock centred near the Port of Lyttelton that devastated central Christchurch and killed 182 people, most in the central city district in relatively modern buildings. The severity of this quake was caused by the fact that its focal depth was only 5 km deep. It was the shallowness of the shake that caused the major wide scale destruction. What was unexpected and caused major consternation among gallery staff was that the Christchurch Art Gallery third in line to be a Civil Defence hub should a disaster like this happen. This fact had never been communicated to gallery staff. On arriving at the gallery at 5.30 am, to assess the impact on the collections and exhibitions, in September it was with great confusion to find thousands of Civil Defence staff taking over the Gallery including the exhibition spaces. New Zealand is known as “the shaky isles” because minor tremors are not uncommon. This unknown fault came as a complete surprise to earthquake experts around the country and overseas. Although the epicentre was in Lyttelton the energy waves travelled along the mountain range causing most damage to areas in the central business district. The amount of damage was dependent on the type of ground upon which the buildings were sitting. Soils such as sand or reclaimed land caused much more displacement. Liquefaction was a huge issue and occurred where there was water, sand and silt present. As Christchurch had many underground aquifers copious liquefaction was extremely wide spread across the city. Having formed the Canterbury Disaster Salvage Team in 1987, and producing annual workshops and stressing the importance of preparation and awareness of possible threats to collections, it was horrifying to discover how ill prepared particularly the cultural institutions were despite regular training. After participating in many salvage operations during this time it became apparent it was because they had little time or money to develop their training or plans. For cultural heritage professionals in New Zealand, this event has proved to be a salutary lesson on what to expect

should the very worst happen. Future disaster planning should take in to account not just the normal disaster scenarios but also ones that may not be immediately apparent, such as a museum being taken over by Civil Defence teams and government granting extended powers that have a severe impact on the safety of cultural heritage collections - such as happened to the art galleries and many public libraries in Canterbury.

Biography

Lynn Campbell obtained a Fine Arts degree and studied for a post graduate qualification in the *conservation of paper in the UK. She taught conservation in Zanzibar, East Africa to students from East African countries and worked at the Royal Scottish Museum in Edinburgh before returning to Newcastle upon Tyne to teach conservation. She worked at the Robert McDougall Art Gallery (now Christchurch Art Gallery) for 28 years. Lynn was at the Getty Conservation Institute in 2012 where she undertook research into earthquake preparedness for cultural institutions and took part in a course in China in 2015 (organised by the International Institute of Conservation and the Royal Historic Palaces in Beijing) on new scientific approaches to preventive conservation. Lynn returned to the UK in 2017 where she undertook research into the conservation of heritage wallpapers. This was generously funded a Winston Churchill Fellowship. Lynn has recently returned from Iceland where she gave a paper at the XXI International NKF Congress 26th - 28th of September 2018. Lynn has been co-ordinator of the [Canterbury Disaster Salvage Team](#) since 1987.*