

Opinion: Forests instead of cathedrals

May 7 2019, by Guillaume Habert, Alice Hertzog



Notre Dame in flames on 15 April 2019. How should we respond? Credit: Flickr / Olivier Mabelly / CC BY-NC 2.0

Notre Dame should not be rebuilt, argue Guillaume Habert and Alice Hertzog. In times of climate change and in light of the current religious landscape its reconstruction is no longer a priority.

As Notre Dame burnt last month, it was reported that the air hung heavy with the scent of old oak. A far cry from the stench of burnt cladding and plastic normally associated with housing fires in the French capital. The centuries-old wooden roof of the cathedral flared up quickly,

fuelling a fire that ran through the night, and threatening to destroy the famous Parisian monument.

By dawn, large sections of the building were in smoulders, the belfry towers still intact, and reconstruction already on the table. The French president promised to rebuild the cathedral "even more beautiful than before, within the space of five years. An architectural competition for the spire was launched and a fund swiftly set up with hundreds of millions of euros flowing in from French tycoons and international donors.

Pews are emptying

But when a seven-hundred-year-old building goes up in flames, it's an occasion to reflect on heritage and legacy. The architectural legacy of the stained-glass windows, zinc roof and 19th century spire clad with 200 tons of lead has been documented, and is now being mourned. The funds are there to rebuild it – but would the reconstruction respond to a need? Is it sustainable, resilient, or even desirable to rebuild the mighty timber structure of Notre Dame? Shouldn't we first consider how we can best meet the needs of future generations?

Notre Dame was built to last forever, to celebrate God, to honour saints, and crown kings. But France, once considered the "fille aînée" of the Roman Catholic Church, is now a strongly secular republic that has approved homosexual marriage and has an ever-shrinking number of practicing Catholics. With the changing demographics of the Catholic Church, it would make more sense to build today's cathedrals not in France but in Latin America, where over 80% of the population is Catholic, or in sub-Saharan Africa where there is the highest growth forecast for Catholicism.

Detrimental to our climate

Just as the religious landscape has dramatically shifted, so too have the environmental imperatives that must now inform how we build our cities. The recent IPCC report warns that we have 10 years to drastically change our construction techniques. We need to unlearn the past 200 years of industrial revolution to build a carbon neutral society. And thinking about our long-term legacy in this context, might mean not building – not extracting more metals and not felling the trees in the forest – rather than building to last forever.

The ceiling of Notre-Dame was held together by huge pieces of timber that had been drying-out since the 13th century. At that time, over 21 hectares of forest were cut down to build it. The morning after the fire, the French insurance company Groupama pledged 1,300 hundred-year-old oak trees from its private forest in Normandy – the trees required to replace the beams, trusses and reinforcements of the roof's intricate latticework and to restore Notre Dame to its original form.

At first glance, building with wood appears to be a sustainable and climate-friendly solution where carbon is stored in buildings. However, this is only so when the life time of the bio-based material in the building is longer than its life time in nature. If today we cut down hundred-year old oaks that would have survived in nature for a long time, this is not the case. Even if the cleared oak forest were to be reforested, the newly planted oaks would take decades to absorb and store significant amounts of CO₂ from the air. What's more, the cutting and drying of this timber will release CO₂ into the atmosphere in the short term.

The production of lead or zinc for reconstructing the roof and spire will generate further carbon emissions. It can also lead to water pollution, and these raw materials are becoming increasingly scarce. Is this the legacy

we want to leave?

Foundations for the future

Speaking at the European Parliament the day after the fire, climate activist Greta Thunberg urged leaders to adopt the long-term approach, the "cathedral thinking" of early cathedral builders, to tackle and prevent climate change. "It will take a far-reaching vision, it will take courage, it will take fierce determination to act now, to lay the foundations where we may not know all the details about how to shape the ceiling," she said.

To rebuild Notre Dame would be to replicate the cultural heritage of past generations. But what do we really want to bequeath to generations seven hundred years down the line? Cathedrals, or a climate and functioning ecosystem that allows them to thrive?

Architects, designers and engineers are well equipped to provide elegant solutions for Notre Dame, without provoking further climate change or jeopardising the quality of life of future generations. When less is more, then maybe nothing is everything. The next 10 years are critical for shaping life on earth for the centuries to come. Avoiding unnecessary emissions is the most appropriate contribution to our future. For who knows, in seven hundred years, our forests might be their cathedrals.

Provided by ETH Zurich

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