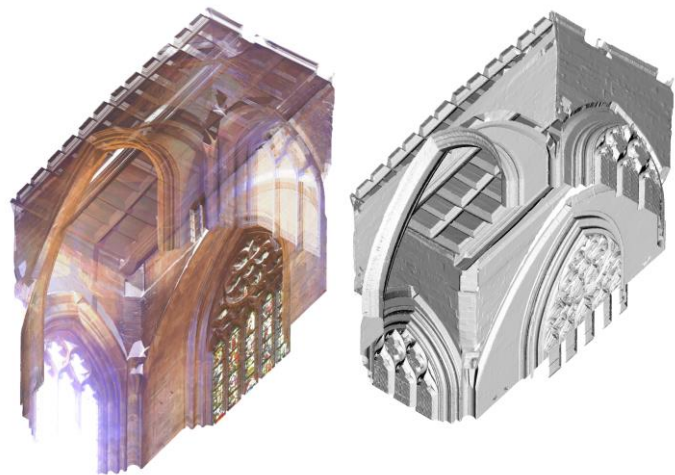


Tracing the Past: A Digital Analysis of the North Transept and Chancel Vaults at Nantwich St Mary's Church

Nicholas Webb and Alexandrina Buchanan: Lecturer in Architecture, [School of Architecture](#) & Senior Lecturer in Archive Studies, [Department of History](#), University of Liverpool

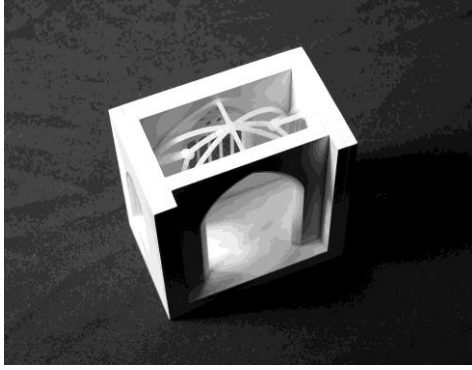
This paper will examine the use of digital surveying tools as the starting point to analyse the design and construction process of medieval vaults, which forms a part of our '[Tracing the Past](#)' project, where several churches and cathedrals in the British Isles have already been documented.

Laser scanning and photogrammetry techniques enable detailed and accurate 3D digital models to be created, in this case of the north transept at St Mary's church, Nantwich. After this, their geometry can be studied, for example by digitally tracing rib curvatures and moulding profiles.

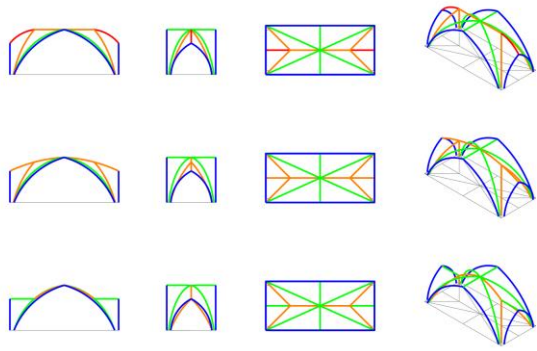


North Transept Point Cloud and Mesh

Furthermore, we can then hypothesise the design and construction process used by the medieval masons to create the vaults using a system of reverse engineering. This is particularly significant at St Mary's church, as the north transept contains an unfinished vault whereas vaults in the chancel of the church are completed, enabling us to compare reverse engineering methods with varying levels of evidence available, as well as allowing comparative studies between the two spaces to be made.



North Transept 3D Print



North Transept Wireframe