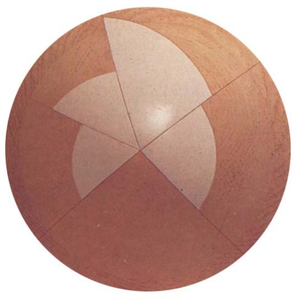
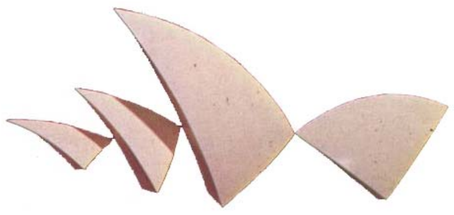
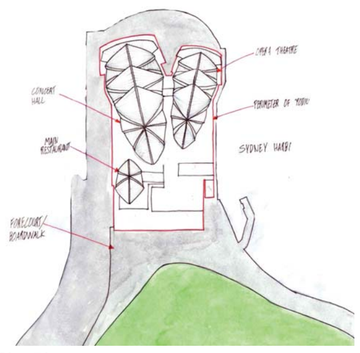
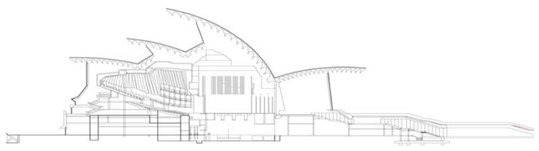


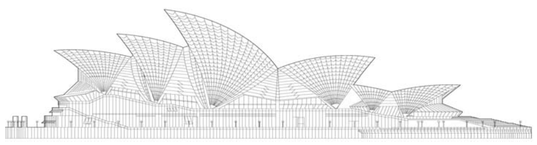




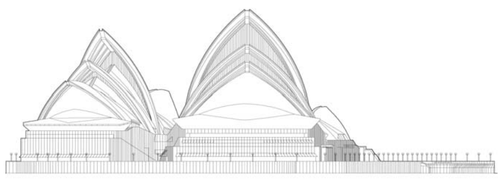
Site Plan



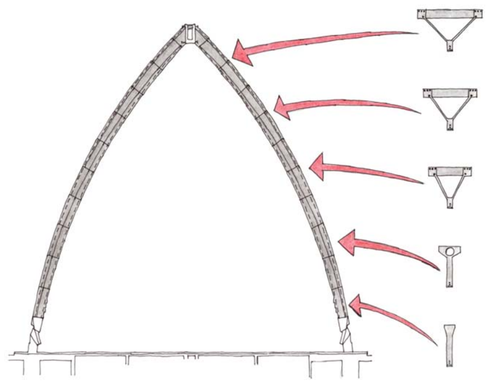
Section of Opera Theatre



West Elevation of concert hall

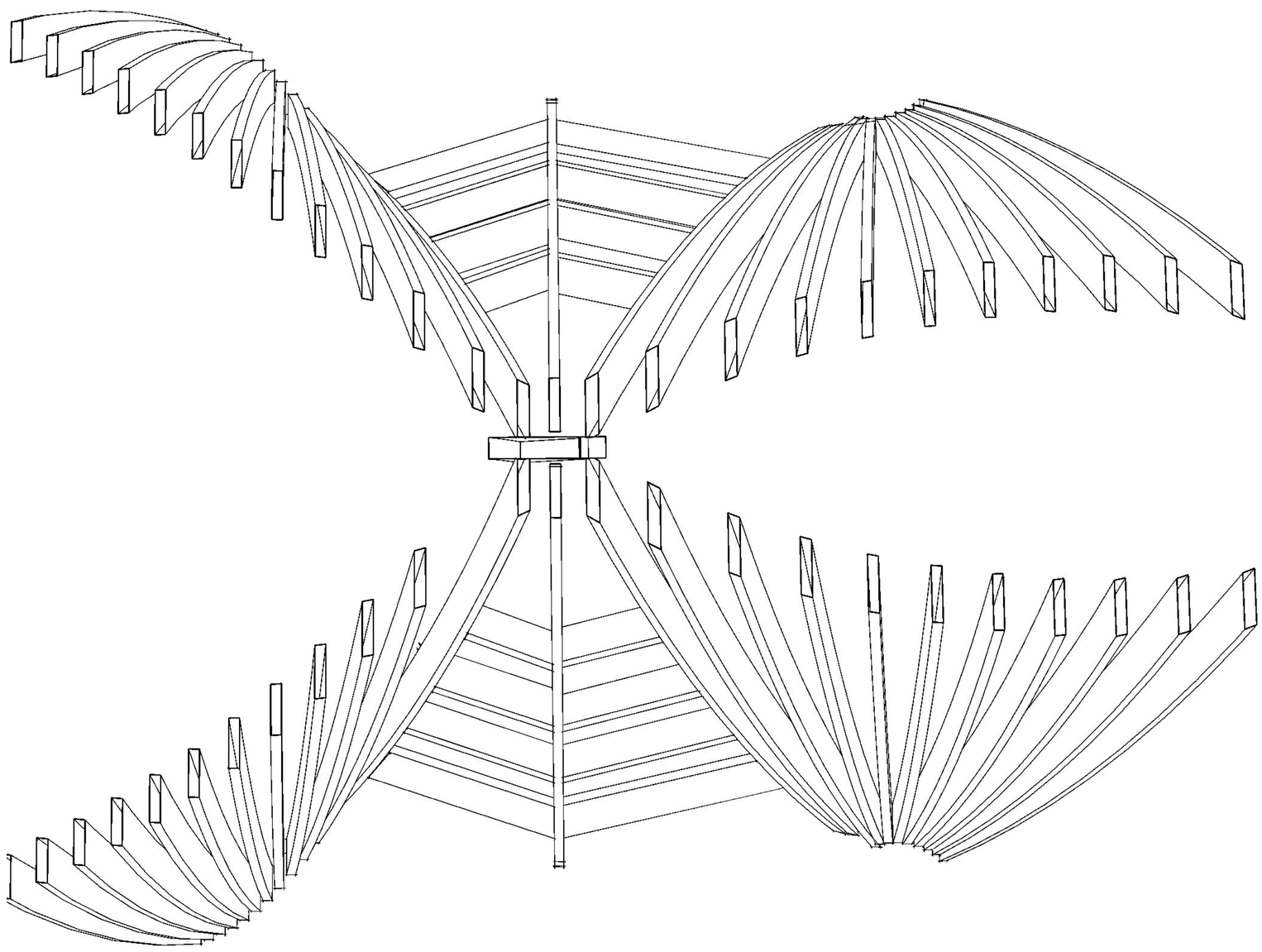


North Elevation



Segment Profiles

Primary and Secondary structure

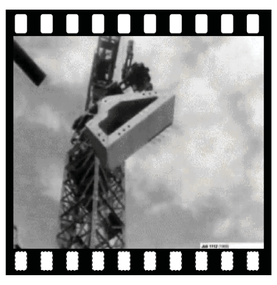


SYDNEY OPERA HOUSE

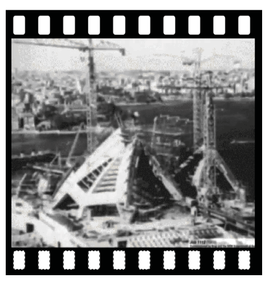
JORN UTZON

1972

In 1956 the NSW Goverment called an open-ended internatioinal design competition.The main requirements of the competition was to design two performance halls,one that would be for opera and the other for sympho-ny concerts.Jorn Utzon's design was the winning entry. In 1956 Peter Rice joined Arup in London after a prima-ry degree in structural engineering and another year at imperial college to work on the complex "geometry" of the shell like roof structure for the "Sydney Opera House". This was Rice's first project. Rice was one of the very few who understood the solution and how to solve and cod-ify the geometry of the shells.Rice did the principle analysis of the roof structure both in its final built state and during construction.He went to Sydney and was assitant to Mc kenzie a very experienced engineer

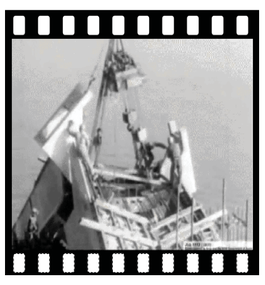


Precast segments lifted and placed in position.

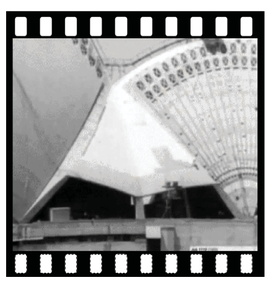


Construction of arch crowns.

Rib segments being placed into position.

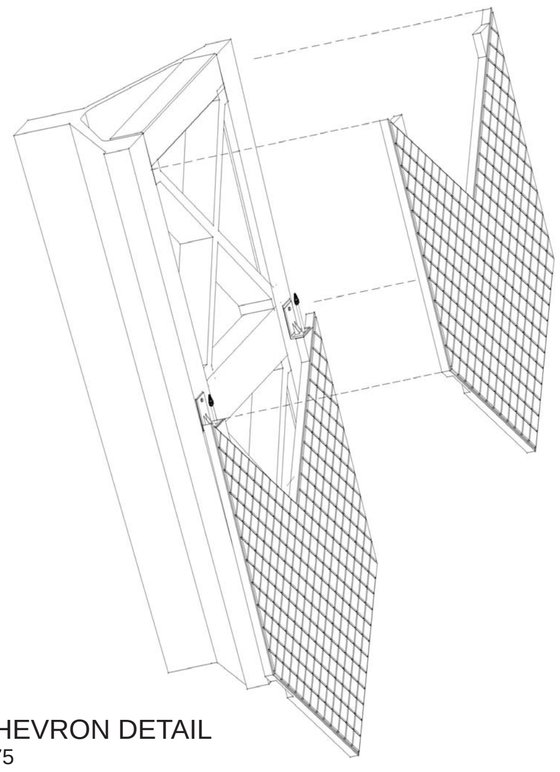


Ridge beam is concrete jointed and tied across with cables.

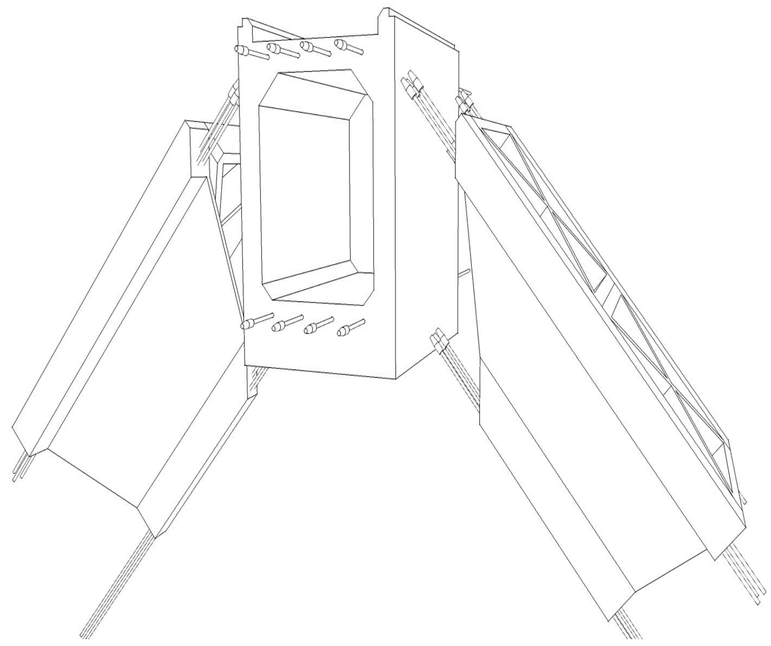


Ridge beam jointed and pre-stressed back to arch crown.

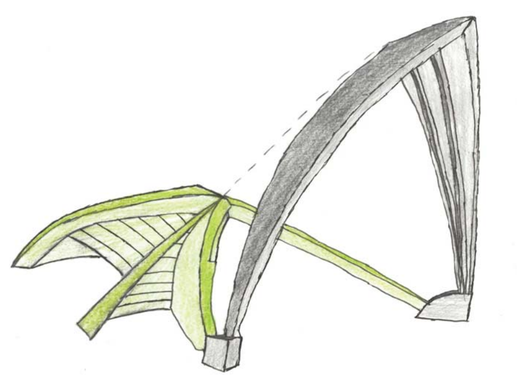
Ceramic tiles hung on butchers rack.



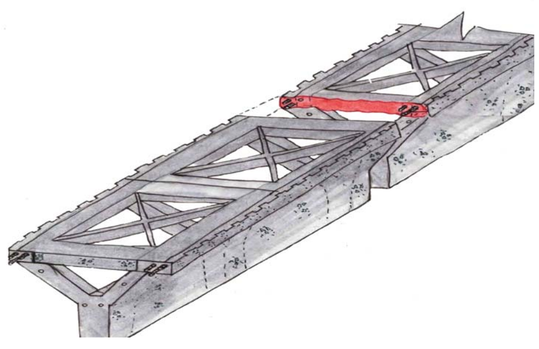
CHEVRON DETAIL
1:75



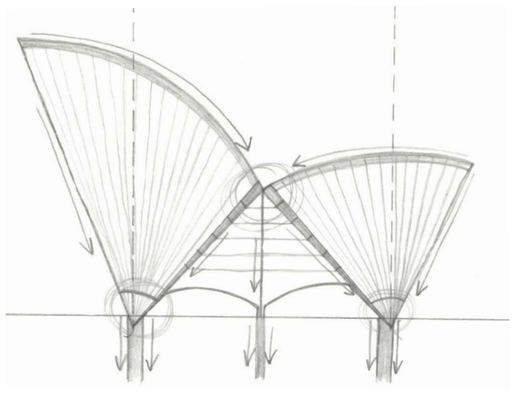
KEYSTONE CONNECTION
1:75



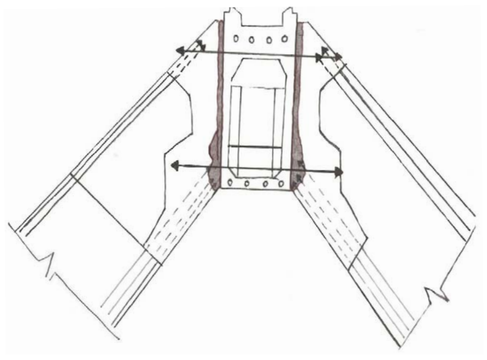
Main shell connection to side shell



Ribs are jointed with an epoxy resin and post-tensioned.



Structural loading points of shell connections



Keystone connections

CONNECTION & COLLABORATION: LESSONS FROM PETER RICE

3rd & 4th YEAR ARCHITECTURAL TECHNOLOGY 2013

Students: Milo Bashford, Gerard Bennett, Ross Boyce, Patrick Brady, Robert A Burns, Robert G Burns, Sean Casey, Andrew Cleary, Carl Corcoran, Anna Cullen, Chris Daly, Adam Darby, Bernard Deay, Mark Denneny, Vincent Doherty, Mark Doyle, Dean Farrell, Ciaran Ford, Shane Hall, Ross Harrell, Ben Harrison, Colin Hemon, Adam Henderson, Fatma Hinawy, Darren Hoey, David Holland, Brian Kennedy, Akvile Klapatauskaite, Davitt Lamon, Brian Lee, Peter Lemasney, Ciaran Lennon, Brendan Linnane, Sarah MacLoughlin, James Maguire, Peter Mahon, Brian Malone, Michael Malone, Jason McElroy, Kevin McFeely, Karl McGarry, Pauric McGill, Marcus McGuire, Joe McNally, Kevin McNulty, Bryan Menton, Darragh Moore, Stephen Morris, Niall Murphy, Owen O'Flaherty, Ruairi O'Neill, John O'Sullivan, Daryl Phelan, Martin Philip, Ian Plunkett, Robert Quinn, Stephen Ralph, David Reilly, Jonathan Rogers, Anita Salako, Andrei Triffo, Aiga Veltensone, David Veltom, John Wolfe-Flanagan, Dominika Zubiak. **Staff:** Cormac Allen, Eric Bates, Noel Brady, Máirtín D'Alton, Pierce Fahy, Rory Greenan, Orna Hanly, John Lauder, Tim O'Leary, Jim Roche, Sima Rouholamin, David Wright. **Collaborators:** Gerard Crowley, Peter Flynn, Declan McGonagle, Sean Ó Laoire.

Dublin School of Architecture