

POLYTECHNIC OF TORINO  
FACULTY OF ARCHITECTURE  
Degree in Architecture  
*Honors theses*

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**Marine Associations in Architecture. Cardiff Opera Theatre Project**

by Anna Ilaria Torre

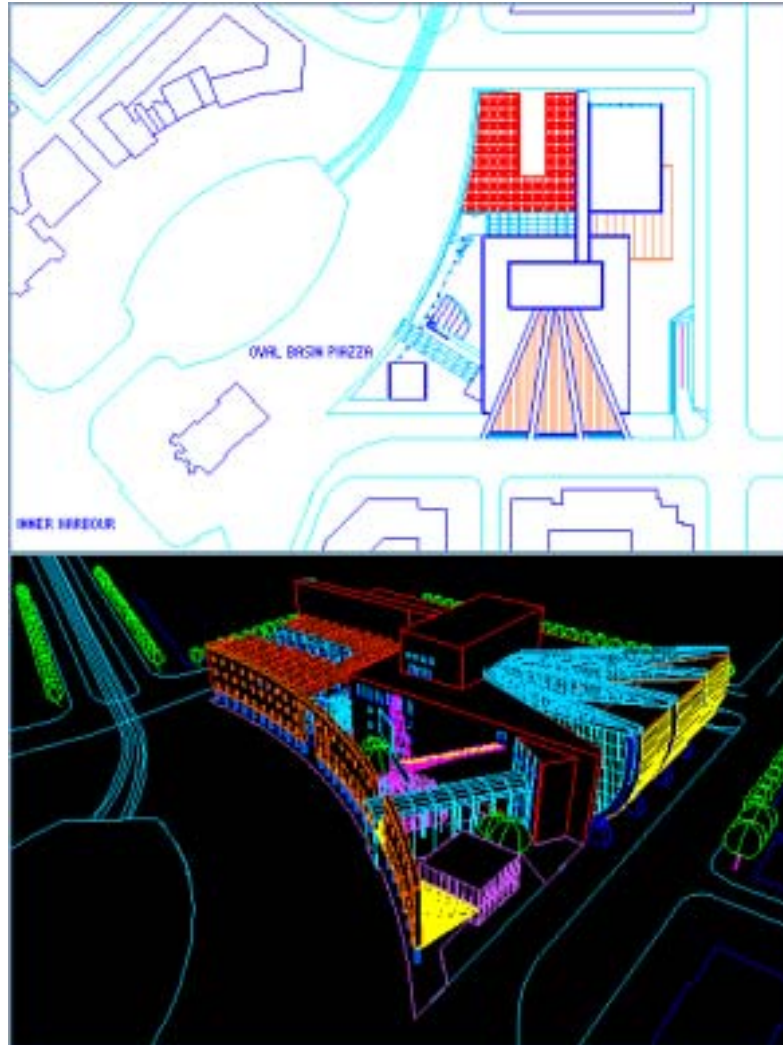
Tutors: Franco Lattes, Maria Grazia Conti Dapra'

The aim of this thesis is to integrate the sea environment into the opera theatre project while satisfying the criteria stipulated by the client - the Cardiff local government - in the Cardiff Bay Opera House Architectural Competition.

The building is to be both a cultural and artistic landmark for Cardiff and for the inner harbour area which has lost its identity since the decline of the coal industry.

Various contextual points of reference were analysed in the development of the project, such as the Docks, the buildings of Cardiff, the characteristic Victorian glass halls and the woodwork typical of naval carpentry. The theatre project also reflects the considerable research behind its design, the main references being Hutzon's Sydney Opera House, Aalto's concert halls, The Lyons Opera House by J. Nouvel and the project by Zaha Adid which won this competition.

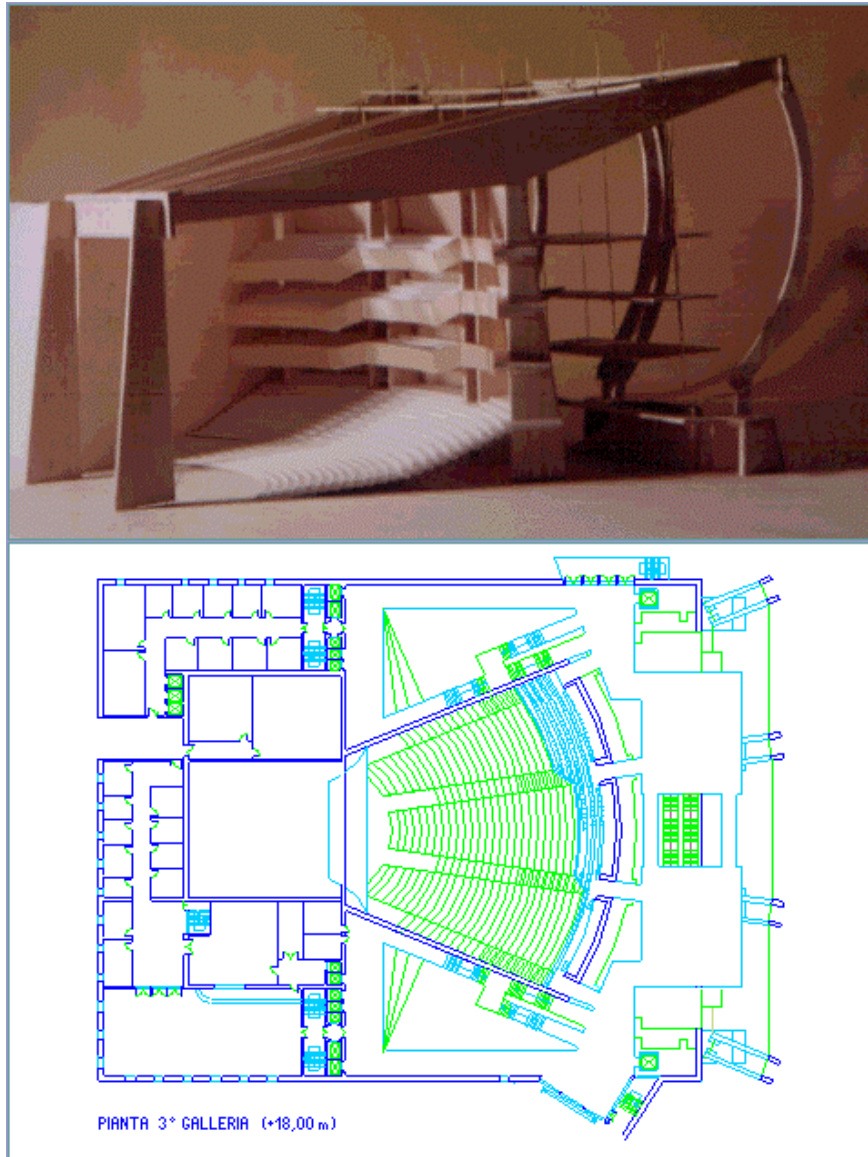
The theatre site faces the Oval Basin Piazza looking onto the sea. The theatre is to be the focal point of the development of the area, which is linked to the city centre by a broad boulevard. This project satisfies all the competition requirements, and in this short synthesis only the most important points conditioning the project are examined.



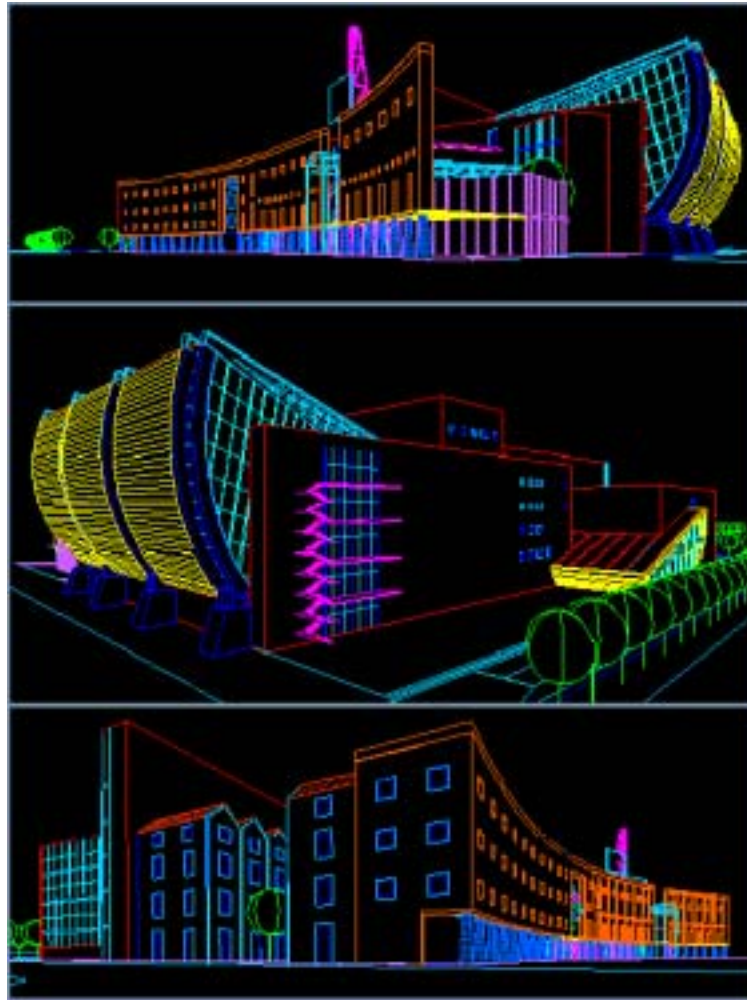
First of all, the Welsh National Opera needs a new headquarters, while Cardiff also needs a new Auditorium where local musicians and guest groups and orchestras can perform. The Auditorium and the Welsh National Opera headquarters are to be closely linked inside the same building, while being separate enough to be able to work independently with different opening and closing times and periods. The building must also include an area open to the public at any time as a meeting place, and for tickets or information about cultural events in Cardiff.

The overall structure of the building should be pleasant to look at from all sides, and not only from the front facing the Oval Basin Piazza. Inside the theatre must have a seating capacity of 1750-1900 spectators, providing a comfortable surrounding atmosphere, and there must be a large foyer.

The project is a combination of different volumes, each of which satisfies a precise function, that are easily recognisable from the outside while forming a single harmonious whole. The centre of the piece is the Auditorium, which also satisfies the visibility and acoustics requirements with solutions based on the results of the most up-to-date research. Three galleries, one above the other, encircle the stalls. The Auditorium is set inside a very spacious foyer and is connected to it by means of suspended walkways, allowing spectators to move easily from the stalls to the foyer and back during the intervals.



Each volume is studied both as a part of the building as a whole and as a single response to its own context. Thus one of the walls extends like a stage wing into the piazza which is seen as the stalls area of the theatre (fig. 1 - prospect/view A). This wall defines the edge of the square which would otherwise be hard to identify because too many empty spaces are present: the opening onto the sea, the beginning of the boulevard and various isolated buildings. The foyer is immediately visible from the sea and evokes a huge wooden keel. The offices face onto the city side of the area and look like a fragment of the town in a setting of clear-cut volumes. The last side is a simple composition of volumes with the sea element as its focal point. This is the entrance to the rehearsal studios which are open to the public, the fly tower and the offices of the Welsh National Opera.



The entrances and access routes are also an important part of the project. There are three entrances which have clearly been designed in order of importance and that are emphasised by an evident interruption in the homogeneity of the facade. Two glass galleries cover the access routes. The one onto the square leads to the theatre foyer, while the other crosses the entire block, from the square to the rehearsal studios, enabling the public to accede to all the activities inside the building complex. The space between the "wall cum stage wing" and the theatre is more public orientated, with volumes and open and closed spaces creating an interaction between public and private. The ticket office is an up-ended keel shaped meeting place, the bar and restaurant are built like a pile-dwelling, while an iron tower houses a lift leading to the theatre bar which is always open.

All the drawing has been done using AUTOCAD R13 with in-depth three-dimensional models, which has made it possible to provide various perspectives of the complex combination and interaction of the volumes of the project.

For further information, Anna Torre, e-mail: [sbassi@medianet.lognet.it](mailto:sbassi@medianet.lognet.it)