

THE LEBANESE-OMANI CENTRE

**HOUSE OF ARTS
AND CULTURE**

THE HOUSE OF THE ARTS AND CULTURE in BEIRUT | urban agenda and architectonics

Our starting point conceptually began with the evergreen **Lebanese cedar** (*cedrus libani*), which has proudly stood as the emblem of Lebanon for almost 2,000 years.

Culturally representing immortality and resolve, throughout history this tree has been symbolically linked to Lebanon's prosperity, peace and wellbeing. The very history too of this great nation is tied to this tree - the ancient Phoenicians used its wood for building the ships that would assist the growth of its ancient civilisation, while the Sumerians claimed the cedar groves of Lebanon were the dwelling place of the gods.

Observed under microscope, the cedar's fine septate fibres reveal a fascinating and infinite rhythm of knots, cores, radii and growth rings. In these images of the cedar's fibres we discovered an organic and dynamic code, which we have sought to implant back upon the building, emphasizing its place within the urban fabric.

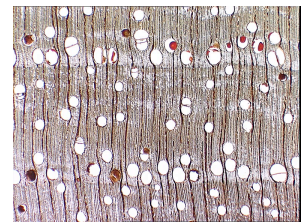
The building's thematic core and nucleus have been extrapolated from the organic data we discovered in the culturally significant Lebanese Cedar; these themes have been projected outwards from the micro to the macro, layer upon layer, generating an architecture of organic dynamism with its own velocity and flow, surrounding and invigorating both people and its surroundings environment. A suggestive urban space required for art and culture to thrive is thus grown.

As a result, the interior layout and volume of the building are perceived and experienced in regards to this movement. Spaces of circular movement and curvilinear forms follow flows of concentric radial growth, similar to those laws which govern and guide the growth of the cedar's trunk. It is such parallels between nature and architecture, between the history and culture of Beirut in which we have based the scheme.

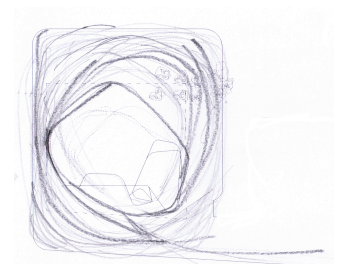
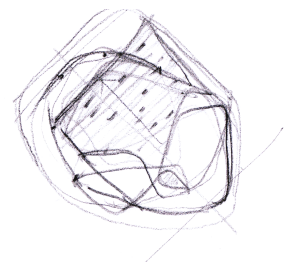
We imagine hoards of Lebanese citizens gathering around the cedars of ancient groves, rejoicing in their scent and beauty; and once held within their arms, a people are joined together, provided with shelter and history.



lebanese cedar | symbolic forms



septate fibres | transversal section



dynamics | planar velocities

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structural and constructive solutions

We have designed a building capable of seducing not only with its power of representation and expression but also with its structural and constructed simplicity and honesty. We propose an architecture generous with forms which puts emphasis on programmatic and spatial relationships - both by level and by section - yet without flaunting an opulence of materials nor complicated and costly systems, but rather the opposite: an architecture whose beauty is based on the affinity between the constructive system and the resulting form and functionality, along with its capacity to create a sense of harmony with its surroundings.

STRUCTURAL SYSTEM

Given that the building, at its centre occupied by the Large Performance and Conference Hall, has a hollow core of reinforced concrete in the form of an inverted pyramid, smaller at its base and wider at its top creating large and free spaces, we propose a structure based on the following elements.

- 1- **A central structural drum:** the central core, housing the Large Performance and Conference Hall as principal support element. 30cm thick wall of reinforced concrete.
- 2- **2.5m high primary structural members** (thick box section beams) span and extend beyond the width of the reinforced concrete drum supporting the façade, whilst tension cables support the suspended floors below. The joist span between the members form the slope of the roof above as well as the tiered seating of the open-air amphitheatre.
- 3- **The suspended floors** (comprised of corrugated steel reinforcement sheets), aside from being supported by tension cables from the box beams above, are anchored in the walls of the central concrete drum and from this secondary structural members are hung. In this way, large diaphanous spaces are achieved.

This structural system, supported further by the circular geometry of the scheme, allows the building to be capable of achieving excellent seismic stability and security.

FACADES AND EXTERIOR SYSTEMS

The roof has been designed to be capable of bearing a substantial load and therefore can be walked across freely along the flat central "stage" area and along its sloped perimeter, where the open-air amphitheatre's

tiered seating is situated. We have designed an efficient and cost-effective inverted insulation system for the roof, whereby the thermal insulation is located directly over the waterproof insulation lining. This solution allows us to do without a water vapour lining, but also, more importantly, it guarantees an optimum conservation of the insulation lining. As both external surfaces: the thermal insulation (a polyfoam rigid insulation) as well as the timber clad finishing are raised upon a system of studs, they will not perforate this lining.

Despite the homogeneous appearance of the exterior, the facades in fact combine two differing construction systems. This façade, modelled on the formation and fine structure of the septate fibres found within the Lebanese cedar, is figuratively reproduced through the use of the following *two* mechanisms:

- 1- On the lower levels, in order to achieve a greater degree of transparency, a metallic framework structure is used; upon which the wooden external pattern work and the interior timber laminated insulation panels are fixed
- 2- Light non structural concrete panels, hung from metal girders and cavity walls on the upper levels allow for a better control of natural light and premium acoustic insulation

FINISHING SYSTEMS

To the greatest degree possible, timber will be used as the main finishing material in the interior of the building, both as the lining of the central drum (the vertical hub and core) and on the majority of the interior walking surfaces and ceilings. The roof and the open-air amphitheatre will be clad using raised platforms of cedar.

ENERGY SYSTEMS

Our compact, architectonic proposal incorporates major use of passive energy methods for solar protection and heat-loss control. The circular form of our proposed scheme was designed to efficiently and cost-effectively enclose the greatest space within the smallest perimeter. We foresee reinforcing these energy-saving methods with energy-efficient technologies and equipment using third party systems geothermal, solar and/or biomass energy to the greatest extent possible