Legislative assembly hall at Gandhinagar, India

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Bâtiment de l'assemblée législative à Gandhinagar, Inde

Parlamentsgebäude in Gandhinagar, Indien

S.G. JOKLEKAR
Princ. Consult.
STUP Consultants Ltd.
Bombay, India

J.S. PADALKAR
Princ. Consult.
STUP Consultants Ltd.
Bombay, India

An architect's daring vision becomes concrete reality in the Legislative Assembly Building at Gandhinagar, Gujarat. This five storied circular building springing above the podium level forms a central core around which the Ministerial and Legislative Offices are built and are connected to the core by number of bridge-links on four sides (Fig.1). Exposed structural forms have been used to achieve the architectural effects. The 42 metre diameter structure is supported on eight numbers of main 'V' shaped columns going to the full 40 m. height of the structure, the central column going upto the 2nd floor supporting assembly floor, and four other columns stopping below the podium level. Viewed from the podium level (Fig.2), the main central column rises from the centre of the foyer into radiating, reinforced concrete, rib-beam pattern, to form a delicate stylised flower (Fig.3). The main assembly floor supported on eight 'V' columns and the central column seats 232 legislators under the central octagonal dome. The eight surrounding galleries provide for the officials, the press and upto 600 visitors (Fig.4). The galleries spanning between 'V' columns are inverted folded plate units following the shape of the gallery in form of inverted two sides of a triangle. Door openings have been cut in this structural shape at the lower end of the gallery at different locations on eight sides. Surrounding space cantilevering from assembly floor beyond 'V' columns forms circulating space for legislators. Similar cantilevering circulating space at 3rd floor level serves the galleries avoiding intermixing of legislators and the visitors.

The octagonal floating dome (Fig. 4) is supported on eight brackets cantilevering from the 'V' columns with gaps on all sides to permit natural lighting, augmenting light from central skylight (Fig. 5). This gap gives a vision of the floating dome. The 'V' columns penetrate beyond the peripheral roof slab and have cantilevered beams extended upto central skylight creating an effect of a dome suspended from these over the assembly hall as seen from the roof level.

The parking, canteen services and maintenance facilities are provided on Ground Floor. The air conditioners for assembly hall are fitted into triangular rooms enclosed within 'V' shape columns at the roof level. The space in the crook of 'V' columns forms ducts for air conditioning. Single source of artificial luminairs fitted on top of the domes illuminates the entire floor and the galleries. Except the acoustic treatment of the dome and a few partition walls most of the surfaces are of structural concrete finish, making a complete fusion of the architecture and structure.

The design and analysis of this complex structural framing was carried out using combination of 3-D frame and shearwall effects provided by 'V' columns

performing both dynamic and static analysis. The end structure is extremely light and economical. If total concrete used is spread uniformly over the floor area constructed, it will be of 180mm thickness.

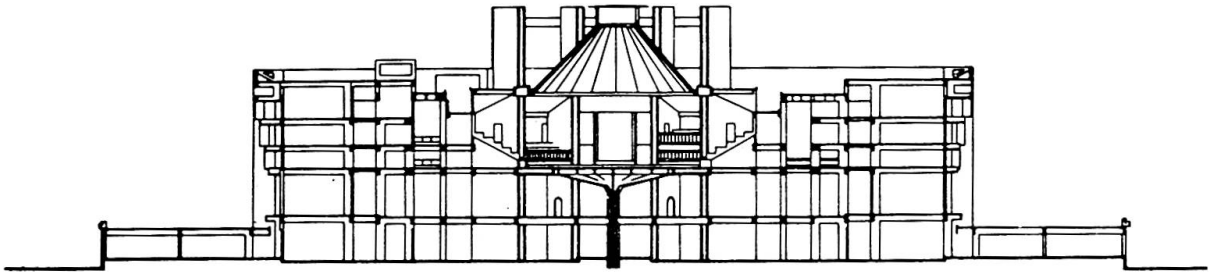

Fig.1 Section through Assembly Hall

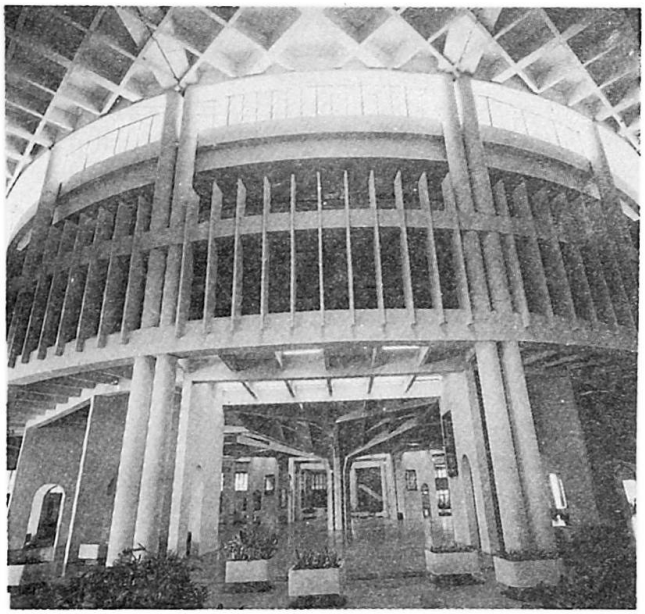

Fig.2 View from Podium Level

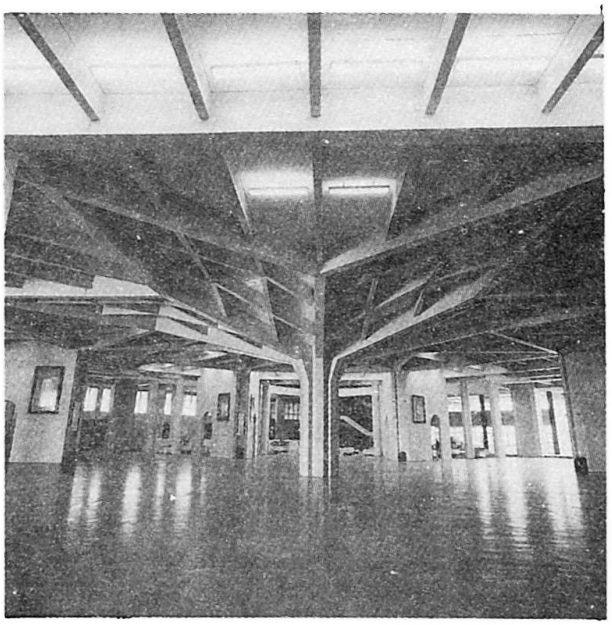

Fig.3 Central Column

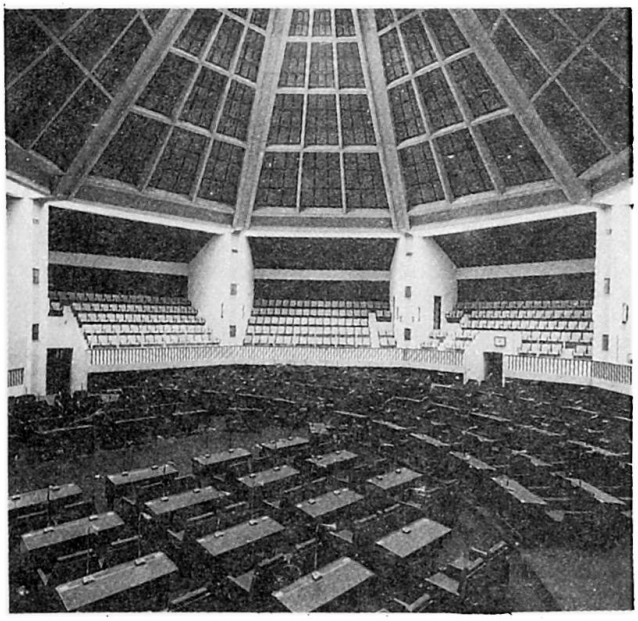

Fig.4 Assembly Floor & Galleries

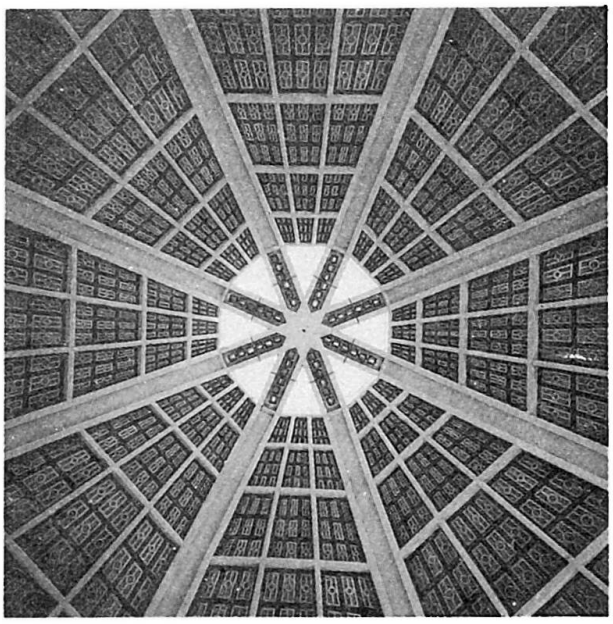

Fig.5 Dome Roof