

Re-Build the Skylon! www.rebuildtheskylon.com

Stories.

Jacko Moya, Powell and Moya Architects, (written 1951)

When the festival of Britain Committee planned the exhibition on the South Bank site it was decided that a tower of some sort should be built to act as a marker. A competition was therefore put in hand for the design of a 'Vertical Feature'. The name 'Skylon' came later.

The competition was not limited to architects; it was open to anyone who wanted to submit a design. The end a number of schemes were sent in.

Philip and I first thought about balloons tethered to float over the exhibition, but it was difficult to find a way of keeping such objects stationed directly over the site in all wind conditions. We abandoned the idea when we found out that the world's total supply of helium fell short of the volume that we would need to keep aloft a thing of the size that we had in mind. IT seemed, therefore, that we had to design a tower built up from the ground.

When the competition was set up the designs for the other festival buildings were not available to the competitors, so we tried to keep to the idea of something floating well above the other constructions.

It was not too difficult to devise a system of three pylons and a cradle of cables to raise the body of the feature above the ground. The shape of the body came from a desire to make it clear that it was not a tower with the usual solid base, so we made it widest halfway up and tapering to a point at the bottom and at the top, a sort of cigar shape. This was also a good shape structurally for the suspensions system we had devised.

As the structure seemed to be fairly simple we made some assumptions about weights and wind loads and worked out the stresses in the cables by the triangle of forces method which we had learned about in our first year lectures. It seemed to be unnecessary to bother a structural engineer at this stage, so we submitted our design and waited.

We were surprised to win the competition and immediately sought the assistance of Felix Samuely, who had been our structures tutor at the Architectural Association. Although he said that he thought it was 'unusual' to ask an engineer to work on a scheme which seemed to be designed already, he said that he would see what he could do, and agreed to be our engineer.

After a short while he got rid of six secondary cables which we had thought were necessary to stabilise the three pylons, and he reduced by half the tendency of the main body to sway in the wind, a well known wrecker of tall or thin structures. (as students we watched with fascination the film of the collapse of the Tacoma Narrows Bridge). Samuely also introduced us to the idea of using the main supporting cables in compression as well as in tension so that they acted like long and thin struts. All

this was done by tensioning the whole structure after it was assembled. Three hydraulic jacks, one under each pylon, were used to induce the tension.

At the bottom of the cigar, the thin point where some of the greatest stresses occurred, Samuely managed to remove our rather bulky cable connectors by the simple but brilliant scheme of using continuous twin cables looped under shoes or cleats.

Although the principle of our structure still remained, Samuely had transformed it into something so simple and clean looking that it seemed quite remarkable that it could remain standing.

Before the exhibition opened Philip and I were winched up to the top in a basket, which also contained Wynford Vaughan Thomas who broadcast a radio commentary during the ascent, and, perhaps for the first time, we had some idea of the skill of the men who built this structure working in such difficult and dangerous conditions.

From the top at 90 metres we had, across the river, an unusually wonderful sight of St. Pauls Cathedral.

The name 'Skylon' was thought up by Mrs. Sheppard Fidler. We were unimpressed at first but soon came to accept that, by combining the suggestions of Pylon, Sky and Nylon (a fascinating new material in 1951), it was wonderfully descriptive name which has lasted forty years, considerably longer than the structure itself which was, of course, torn down at the close of the Exhibition.