In the mid-1950s Dame Merlyn Myer asked John Freeman, and Ken Myer asked Robin Boyd, if their architectural firms would collaborate in designing a permanent home for 'Music for the People.'

The Sidney Myer Charity Trust had sponsored the Music for the People concerts for many years and it was Sidney Myer's wish that there would one day be a permanent home for the performances.

The two firms of architects - Yuncken Freeman Griffiths and Simpson, and Grounds Romberg and Boyd - spent some time testing the suitability of various sites under consideration, including one favoured site on the Yarra River at Yarra Bend.

Finally an agreement was reached between the State Government, the City of Melbourne and the

Figure 1  Myer Music Bowl under construction  (photograph Wolfgang Sievers)
Sidney Myer Charity Trust, and the present site in the Domain was chosen.

Roy Grounds had become more involved in the project, and as one of the newest partners in Yuncken Freeman, I was asked to work on the project.

The design brief was far from clear but included requirements that the building should:

- provide cover over about an acre of stage and seating.
- have seating for a further almost unlimited number.
- fit into the landscape.
- be acoustically excellent.
- work within a tight budget.

We all played around for some time with various ideas and at that time Angel Dimitroff, an associate at Yuncken Freeman, and I became interested in the similarity between the catenary shape of cable suspension structures like the Brooklyn Bridge and the section through Satchmo’s trumpet.

Angel then made a nails, string and rice-paper model fixed on a piece of three-ply about 12 inches x 12 inches. It looked amazingly like the shape of the Myer Music Bowl today.

We took the little model to a meeting of several partners of both firms. When Roy Grounds saw it he declared to all present that this was the solution, saying there was no need for any other.

Figure 2 Myer Music Bowl
gracefully withdrew his firm from the collaboration and wished Angel and me success in developing the concept.

We were then faced with the problem of how to design it. We discussed the concept with several engineers who mainly saw all the difficulties and problems, except for one - Bill Irwin.

His reaction was that it looked possible. He had no idea how to design it, but given time felt it was worth a try. At the time he had as a partner Roy Johnstone, who was particularly good at the mathematical aspects of such a complicated engineering design.

We consulted many authorities, particularly at the Aeronautic Research Station at Fisherman's Bend, where I remember one meeting with many senior engineers - in fact, the more senior they were the more they knew what could go wrong! "Remember the Tecoma Bridge in British Columbia - a suspension structure that shook itself to pieces" - "don't forget fatigue" - "remember the Comet" and so on.

Light tension structures of this sort were really unknown then. Our idea preceded the Munich Olympic Stadium by some 14 years.

Finally under Bill Irwin's guidance we agreed we could proceed with a structural concept, as more
were in favour of proceeding than against by only a small margin.

At this stage the Forest Products Division of CSIRO played a great part and developed a most amazing model, built on a base about 10 feet x 10 feet and consisting of a type of pegboard. On the underside was a series of violin keys.

The model itself was made of piano wire, and by adjusting the tension, plucking the piano wire and listening to the sound emitted, we were able to adjust the shape to ensure there was reasonably equal tension in each cable.

In the design of the Bowl the longitudinal cables hold the bowl canopy up and the lateral cables hold it down. Very simple! It was essential to ensure that all cables were working and therefore any cable that had a flat note was not sufficiently loaded. In some cases the cables did not touch when crossing and so the shape was gradually developed as the cables all came into work to hold up or to hold down the roof.

We also made a sort of one-string harp with a greengrocer’s little scale that could tell us the weight of the tension of a particular pitch of sound when plucked.

In this way the shape of the bowl was really determined acoustically, which of course was appropriate but purely coincidental.

The catenary of the cables gave a shape that was ideally suited to our acoustic requirements, as it avoided the focusing that has been the problem with more symmetrical shapes such as the Hollywood Bowl, where the left-hand side of the audience tends to hear all the brass and the right-hand side all the strings.

We then worked with the aeronautical engineering designer, G C ('Bing') Molyneux, who, with his staff constructed a more accurate model at 1/100 scale. This was then tested at the Aeronautical Research Laboratories at Fisherman’s Bend.

Making this model was a most intricate task. For instance, it was necessary to find cables of the right size and material which would behave on the model in the same way as the full size cables would behave in the structure. After much inquiry, wire was drawn specially for the model. It met all requirements except that of elasticity. To reproduce this quality, small leaf springs were attached at the anchor points at each end of the cable.

With the information tabulated after these tests, the consulting engineers were then able to calculate the size and spacing of the cables, covering connections, cable anchorages and so on.

An additional and major problem which was solved by these tests was the discovery that the canopy structure could not develop flutter, and that it was aerodynamically stable.

It would have been impossible for Angel Dimitroff to draw the final shape without the aid of the model, which was of enormous help to Bill Irwin and Roy Johnstone in calculating the loads on the various cables in the structure.

Every problem we faced seemed to be for the first time: designing clamps for cable junctions that would flex but not slip; ball joint bases to the masts to allow movement by wind and expansion; anchors into the ground for the cable ends that would not corrode.

Generally the problem was how to cope with the changing shape and any potential flutter at the edge of the canopy when affected by the different wind conditions.

While we were trying to design the cable structure we needed to think about the best material to cover it. After trying many different ideas, we finally settled on a new material called ALUMPLY, made in Sydney by Ralph Symonds. An aluminium covered marine-ply in sheets .8m long and 2m wide. It was totally untested for the sort of application we had in mind, but after weathering and stressing testing it stood up very well and we decided to proceed with it. We then designed a special Omega-shaped hinged covering strap and other flexible fixings and connections, using open plastic spacers and fixings.

John Holland Construction and ASCOM Constructions won the contract to build the Bowl. At the very beginning (as with the design) there was a special spirit among all those building the Bowl. It was such a challenge that people worked long hours to keep up the tight schedule (Figure 1). Workmen would bring their families along on Sundays to show them the ‘gadget’ they were making.
ASCOM was mainly a company consisting of young Italian riggers who had come to Australia to erect television masts during the early days of TV in Australia. The riggers loved working on the Bowl and created all the cable network without scaffolding. Most of the work of running from cable to cable was done during the mid-day lunch break when the pretty office girls from St. Kilda Road came to the gardens to watch this human spiderweb being made.

The Bowl finished on time and it opened in February 1959 with a combined orchestral concert of more than 100 musicians, conducted by Walter Wallenstein from New York.

Among the highlights of the Bowl's life must be the 150,000 or so that attended a Beatles' concert, and about the same number at a Billy Graham rally. Wirth's Circus used to appear there in the early 60s (the elephants became very nervous about stepping on the stage). It has seen many Union rallies. The stage is frozen over each winter for ice-skating, and at Christmas it is the much-loved venue for Carols by Candlelight.

The Bowl has been given a number of different awards over the years, including an American Institute of Architects Award in 1959.