

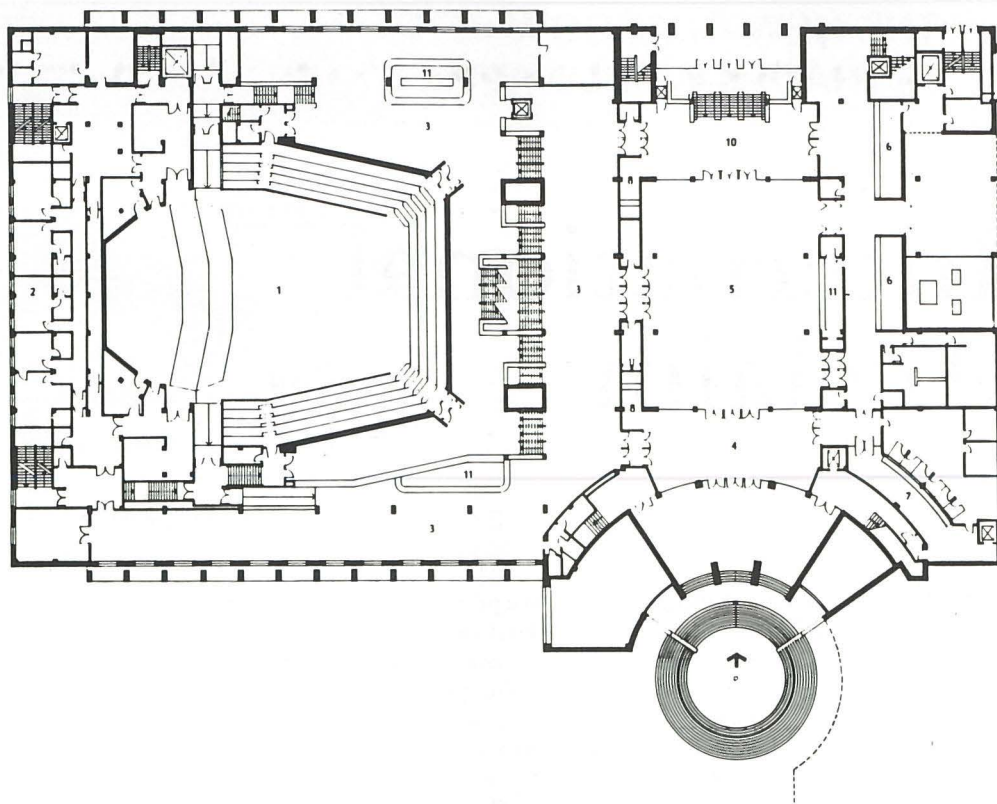
The "lozenge-shaped auditorium" of the hall (right) contains a 290 square meter stage. There are two large elevators at the front of the platform, which can be lowered to form an orchestra pit, or raised to form an extension of the stage. Sixteen meters above this there is a lighting grid from which four lighting bridges are suspended.

L'auditorium à forme de "losange" de la salle (à droite) comprend une scène de 290 mètres carrés. Deux grands ascenseurs se trouvent à l'avant de la plate-forme, qui s'abaisse comme fosse d'orchestre, ou se relève afin de prolonger la scène. A seize mètres au-dessus, se trouve le gril d'éclairage auquel quatre poutres de lumières peuvent être suspendues.

Der rautenförmige Konzertsaal der Hall (rechts) umfasst eine Bühne von 290 Quadratmetern. Zwei grosse Aufzüge beim vorderen Teil der Bühne können gesenkt werden, sodass ein Orchestergraben entsteht, oder sie können erhöht werden, um einen Teil der Bühne zu bilden. Sechzehn Meter darüber befindet sich ein Scheinwerfergerüst, an dem vier Beleuchtungsrampen

The stage is 290 square meters. Nine mixed screw jack and scissor elevators allow for the stage to be stepped for orchestral concerts or for a flat floor, giving the performance area tremendous versatility. There are two large elevators at the front of the platform, which can be lowered to form an orchestra pit, raised to form an extension of the stage, or levelled with the stalls. Sixteen meters above this there is a conventional theatre-type grid from which four lighting bridges are suspended. The grid will also be used for hanging drapes and sound systems. Executive architects Robert Matthew Johnson-Marshall also envisage a cinema screen being suspended from the grid. The initial stage machinery installation comprises, in addition to the stage elevators mentioned, four 1000kg capacity electric bar hoists, and eight 500kg capacity moveable point hoists. There is also a wrap-around cyclorama track.

"Galleries within the roof trusses and along the sides of the auditorium provide additional lighting positions. Sound and lighting control together with cinema



projection is managed from a specially equipped suite at the rear of the auditorium," note the executive architects. The distance from the stage to the rear of the hall is 37 meters.

The first fifteen rows of stall seating are on wagons which can be removed by an air skate system, leaving a flat floor arena for sporting events and other uses.

Sandy Brown Associates are, in conjunction with Dr. Barron, acoustic consultants for the project. The partner in charge is Alex Burd. He points out that the building's central location is a mixed blessing. "The concert hall sits directly over an underground train line. Vibration measurements demonstrated that the sound of passing trains could be audible in quiet passages of music and the decision was taken to isolate the auditorium by introducing a break in the structure at first floor level and seating the building on 450 rubber pads."

A cavity wall of dense blockwork bounds the auditorium and further acoustic isolation is achieved by the surrounding foyer and ancillary areas, thus reducing extraneous noise penetration to acceptable levels. Very low velocity air supply in the auditorium at roof truss level and air extraction from beneath the seating creates minimal intrusion.

Alex Burd aims to provide "the best practicable acoustics for musical perform-

ance, particularly orchestral works." Every attempt has been made to mirror the acoustical qualities of the former St. Andrew's Hall.

"The seating configuration is similar in concept — stalls plus balcony on three sides — but so much greater in scale that the side walls alone can no longer supply the short-term sound reflections which are essential to the achievement of the desired acoustic characteristics. Most of the surfaces of the auditorium will be clad in

The decision was taken to isolate the auditorium by seating the building on 450 rubber pads.

wood panels which have been selected to enhance the acoustic quality of the space, absorbing sound where necessary or reflecting it to improve audibility."

Special sound reflectors have been introduced into the auditorium at the technical gallery level. These produce diffuse reflections, avoiding false localisation effects. Alex Burd sees the functions of these as serving to "distribute the reflections in a manner analogous to the ornamentation noted in a classical space."

The acoustic design of the auditorium was tested on a 1:50 model, and not only were the reflectors positioned according to