C'est là que la vie culturelle et mondaine se développera. Comme il s'agissait d'assainir la circulation, on profitait de démolir les immeubles lelong des faces latérales de l'opéra que ces nouveaux dégagements mettront en évidence.
L'implantation et l'architecture du bâtiment dépendaient beaucoup de l'entourage: comme l'horizontale prédomine dans les façades des habitations proches, on a accentué la verticale dans les façades de l'opéra qui sera soulignée par les cintres développés en hauteur. D'avantage que les écoles et les ambassades des environs, cette construction sera un centre de gravité urbanistique. Les 20 m de distance latérale serviront aux accès des différentes salles; ces espaces gagnés sont aménagés en jardins dans le même style que ceux de la place Taksim pour former une liaison optique généreuse. La circulation est dégagée; les accès aux parkings sont au fond du terrain. Les voitures peuvent s'arrêter sous une entrée couverte. Les arrêts des transports publics se trouvent sur la place Taksim.
La salle des spectateurs, les foyers et les escaliers composent la partie du bâtiment donnant sur la place. Cinq accès mènent au grand hall du rez-de-chaussée avec les vestiaires et les toilettes, d'où les escaliers généreux, librement disposés dans l'espace, montent vers les différents foyers qui sont tous liés spatialement entre eux. Le grand foyer au niveau du premier balcon entoure toute la salle des spectateurs et donne sur la place Taksim. Cette disposition est favorable pour des bals, des réceptions etc.
L'aménagement intérieur souligne le caractère de fêtes auxquelles ces espaces sont destinés:
Sols et murs en marbre, sièges et divans confortables, grands tapis, œuvres d'art, toilettes avec salons de maquillage.
Pour obtenir une bonne vue depuis toutes les places, on a ôté un étage à la structure en forme de fer à cheval, et transformé les extrémités des deux autres galeries, en orientant les balcons latéraux directement vers la scène. On a incliné d'avantage le sol du parquet et logé la climatisation entre les deux dalles.
Le rapport intime entre les spectateurs et la scène est souligné par l'avancement prononcé de la fosse d'orchestre vers la salle, par une structuration verticale de ses parois latérales qui se poursuit sur les murs de la salle, pour y loger les entrées en bas et les projecteurs en haut; l'unité spaciale entre la salle et la scène est donc assurée.
Dimensions: Distance entre le rideau de fer et le mur du fond de la deuxième galerie dans l'axe: env. 33 m, largeur maxima: 26 m, hauteur moyenne: 11,5 m, volume de la salle des spectateurs: 7600 m³, 5,25 m³/spectateur.
905 places au parquet, 308 places à la première galerie, 235 places à la deuxième galerie, 1448 places en tout.
La scène est composée de l'avant-scène, de la scène principale, des scènes latérales et de la scène du fond, toutes au même niveau.
Dimensions: largeur de la scène principale env.: 24,84, profondeur: env.: 23 m, niveaux mobiles 3×16 m, hauteur: de l'ouverture de la scène 9,50 m, largeur de l'ouverture de la scène 12 à 18 m, largeur des scènes latérales 20 m, profondeur des scènes latérales 20 m, plaque tournante: $\varnothing = 16$ m.
La scène principale, composée de niveaux mobiles peut prendre une inclinaison de 17°. Depuis les scènes latérales, des charriots, chargés de décors complets, peuvent être montés sur ces niveaux de mêmes dimensions. Une ouverture réglable offre un cadre variable. Le monte-charge, desservant tous les niveaux, peut loger un camion entier. Les locaux annexes: loges des artistes (solistes et figurants de l'opéra, du ballet et du chœur), direction, metteurs en scène, administration, équipe technique etc.) au niveau de la scène; au-dessus, la cantine commune; tout en haut les ateliers de peinture de couture, les vêtements, etc.; au sous-sol les loges des musiciens, du chef d'orchestre, des salles de répétition, les ateliers de menuiserie, et de serrurerie avec annexes et les dépôts de 330 m² (agrandissement prévu: 700 m²).
Dimensions: Longueur, y compris la scène dans l'axe: 28 m, largeur jusqu'aux appuis principaux: 7,20 m, 5,7 m³/auditeur, 500 places assises, 250 place debout, grandeur de la scène 109 m².
La scène d'essais, accessible depuis le foyer principal, sert à la représentation de pièces d'avant-garde et à toute sortes d'expériences artistiques nouvelles. La salle des spectateurs et la scène forment un tout. La scène mobile est entourée de sièges sur trois côtés et reliée à une scène de fond sur le quatrième côté. L'éclairage est logé sur un pont au fond de la salle et dans le plafond. C'est une sorte d'arène qui offre beaucoup de possibilités à la mise-en-scène d'art dramatique moderne.
Le cinéma pour enfants, à 260 places, est équipé de vestiaires et de toilettes indépendants. Il est situé en face du théâtre et de la salle de concerts au même niveau. A part de maintes salles culturelles, une galerie de peinture se trouve au niveau supérieur, dont on jouit d'une belle vue vers le sud sur le Bosphore. Le restaurant à côté, donne sur la place Taksim; son bar, sa galerie et le dancing sont prévus pour 300 personnes et seront le lieu de rencontre de la société élégante d'Istanboul.

Architecture extérieure de l'opéra:
La façade principale, donnant sur la place Taksim au sud, forme un contraste avec les façades latérales et arrière du bâtiment revêtues en travertin, et s'oppose à l'architecture massive des environs: elle se compose de deux constructions en métal léger d'une distance de 65 cm l'une par rapport à l'autre. La partie intérieure en appuis d'acier et en verre couvre toute la surface de 55/26,50 m, la partie extérieure en lamelles légères donne de l'ombre, mais sert surtout à alléger la façade à cause de sa grande plasticité verticale. Sans gêner la vue depuis l'intérieur, cette façade forme un tissus différencié et très à l'échelle qui caractérise l'opéra d'Istanboul. L'effet artistique de cette façade se fait sentir à l'intérieur, où le jeu d'ombre et de lumière sera particulièrement remarquable, comme à l'extérieur, où la nuit, les lumières de l'opéra donneront de l'ambiance à la place Taksim.

Arne Jacobsen/Otto Weitling Ass., Klampenberg/Copenhague

Nouvelle entrée des Jardins des «Herrenhäuser» à Hanovre avec tribunes et restaurant
(pages 417–420)

Les jardins, héritage des rois de Hanovre, situés à l'ouest du centre de la ville sont entourés de quartiers résidentiels (voir «Bauen+Wohnen» 4/1964). Ils se composent d'une allée de deux km de long formée par des érables, du jardin à l'anglaise «Georgen» avec le musée Wilhelm Busch et du «Grand Jardin» à la française du 18ème siècle avec au centre une fontaine dont le jet atteint 70 m de haut. Le château qui se trouvait au nord des jardins fut détruit pendant la dernière guerre. Les bâtiments préservés à un ou à deux niveaux sont des galeries, une orangerie, les habitations des pages, le musée et la bibliothèque datant de 1820 (A. B. Laver), emplacée dans l'axe de la grande allée.
La ville de Hanovre inclut ces jardins aux constructions scolaires situées tout autour: au nord: école supérieure d'horticulture et école d'art et métiers (E. Zietzschmann), à côté: les écoles de musique, de théâtre et un gymnase commercial prévus, lelong du jardin anglais: école technique. Pour les ballets d'été en plein air montés dans le jardin français, on érigeait des tribunes amovibles. Après l'exposition d'Arne Jacobsen à l'orangerie, la ville de Hanovre le chargeait de construire des tribunes fixes à 600 places ainsi qu'un restaurant à 350 places, un café à 700 places, un musée d'horticulture, des kiosques, des caisses, des toilettes et un appartement du gérant. Ce complexe de volumes devait former l'entrée reliant les jardins royaux au jardin botanique et alpestre. Ce bâtiment représentatif, qui doit remplacer les masses de l'ancien château pose un problème d'intégration particulier: la proposition audacieuse de Jacobsen respecte le vieux plan de la cour du château dans l'axe de l'allée: son bâtiment forme une liaison optique entre l'allée, le jardin alpestre et le mausolée qui sont reliés par un tunnel pour piétons. De grands escaliers mènent de la cour du château vers une plate-forme, donnant sur les jardins par des gradins, d'où s'élèvent les voiles en acier et polyester qui abritent les tribunes en haut, le restaurant en terrasses au centre et le grand café en plein air en bas.

Summary

Cantonal school in Baden

Architect: Fritz Haller, Solothurn
Collaborators: E. Meier, A. Rigert, I. Iten
Projected: 1960
Executed: 1962–64
Construction costs: approx. 155 Fr./m³
(pages 382–393)

The scheme was conceived in such a way as to provide unlimited possible for future extension, up, in fact, to double the present building volume. Traffic and construction schemes were explored which would assure such extension without distorting the architectonic unity of the complex.
The module 8 m./8 m. was chosen as basic to the entire project. Twin axes of approach divide the building area into north, central and south zones. Tree-lined alleys mark off these axes. The north zone comprises the natural sciences complex, the central zone houses common rooms, work rooms, general classrooms, the main lecture hall and the administrative block, the south zone is given over to sports ground which, on completion of the complex, will be transferred to the neighbouring green area. Additional structures may be erected at any time without impairing the spatial concept of the scheme as a whole.
Each teacher has his own classroom, pupils changes classes with each subject; there are no fixed rooms for any one class. For this reason the open halls and circulation areas have been generously conceived so as to provide the pupils with a pleasant sense of community. The large halls have writing areas, rest areas, showcases and exhibition boards. These may also be used for teaching purposes. It is planned to accommodate extra-school groups during the summer vacations and to house exhibitions in the halls and corridors.
Experience has indicated that it is unjudicious to mix different methods of construction. The construction deadline indicated that the use of prefabricated elements was the most effective. The choice of material was essentially determined by assembly and erection considerations and is based largely on steel elements for the structure proper and glass and brick, left exposed, for walls etc.
The study of the ensemble plan and of the construction plan is intimately linked since certain reciprocal influences exist which determine to a large extent the final solution.
The 8 m./8 m. module is based on the surface area of a normal classroom and also on previous experience relating to maximal exploitation of the metal. To obtain identical assembly details throughout it was found necessary to adapt a regular structure: a system with main beams on the axes of the supports and secondary beams in both directions. The main beam on the outer wall is a special beam of sheet-steel.
An intermediate module was used for the supports, leading to double main supports which allowed identical dimensions in the secondary structure and the glass elements; thus the filling walls are mounted within the axis of the principal structure.
Wind stress is borne by the steel skeleton. To ensure this stability the horizontal and vertical elements form rigid squares which are reinforced by special screws in the nodal points. The intersection of support and carrying beam is at the same time the point of contact of all the constructional parts such as slabs, ceiling and floor, brick walls, glass walls, installation cables etc.
The intermediate module is lacking in the recessed glass wall at ground level since free surfaces are formed at the intersection of this wall with the main beams. The wall does not lie on the axis of the supports. The free, open surfaces could have been sealed with tin or thin glass strips but, as these elements are not in evidence elsewhere, we found it sensible to reject the intermediate module. Such departures from the basic conception of the structure are justified inasmuch as they lead to a simplification and economisation without disturbing the overall effect.
The integration of vertical traffic circulation posed a particularly thorny problem. The placement of the rooms made a central location indispensable although this was not strictly in accord with the building. This operation on the building, the replacement of certain columns and the use of auxiliary supports, did not trouble the steel engineers, however.
The fact that the construction fields are even or odd in number was decisive. We opted for four, realising that we were committing ourselves to certain impossibilities, or, more positively, limiting the possibilities.
The problems of condensation in a metallic structure opening simultaneously outwards and inwards did not seem prejudicial in the case of a school where ventilation is frequent. The so-called "cold zones" in the vicinity of heating installations do not disturb appreciably.
Other areas, outwith these zones were specially treated such as the sheet-steel end beams which were sprayed with asbestos. The fact that the gymnasium is only slightly insulated has had no ill effects on users.
The friendly cooperation of the fire police enabled the use of materials on the outer structure which were largely non-combustible. (Brick walls, plaster ceilings etc.) Only the science building with its laboratories and lecture rooms received special asbestos proofing protection.

Fabrication hall, Münsingen

Collaborator: R. Steiner
Projected: 1961
Built: 1962-63
Building costs: 77.50 Fr./m³
(Cf. "Bauen+Wohnen" 11/1962)
(pages 394–401)

Access to the building is temporarily from the main Berne-Thun artery but, to serve the area along this route, an inner road parallel to the main artery is envisaged. Garage ramps and parking facilities lie to the north. Access must be so planned that it can be transposed from the west side to the east at a moment's notice. To the south almost unlimited extension is possible for the fabrication hall and administrative complex. A flexible module permits a variety of building assemblies. Unusual problems arose with the planning of the bearing pilework, since transverse pilework has seldom been employed. After initial investigations it was found that the framework had to be strengthened at certain nodal points and that additional sheeting was necessary. A solution was finally found in a geometrical system with an intermediate module at points of intersection. Consequently, although the nodal points are not perfect from a static point of view, the crosspieces of the upper and lower girdles are not unduly subjected to stress. The technical advantages in production and assembly far outweigh in this case static considerations.
An overall solution was sought and not a solution to individual problems. Thus, in the case of the supports, the static function was again subordinated to constructional considerations: a support element was sought which would function in various positions – as end-support, interior-support or corner-support, one which might also carry the various water, electric and drain installations, and be readily utilized in conjunction with the pilework.
Certain problems arose in connection with a later hall which called in question the use of a transverse bearing pilework. A project with main beams in one direction and secondary beams in the other was dismissed for economic reasons, since additional supports would be necessary to wind pressure (equalize). Experience taught that hooks and rails installed in the bearing pilework proper were advantageous in that the roofing thereby became an integral part of the construction process.
A special construction problem was the horizontal joint between the roofing and the façade. The roofing follows the movement of the pilework, giving

6 mm. under snow and an additional 6 mm. under the weight of the crane. This 12 mm. joint must accommodate assembly tolerance, vertical dilation in the façade etc. In addition, the vertical joints of the façade construction and the roof end-sheeting meet here. The joint must, of course, be watertight. It seems that all the major problems of fabrication hall building are resumed, so to speak, in this one joint.
The machines in a factory change often, every 10–15 years; it was thus necessary to accommodate new machines in various positions at any given time. A system of electric wiring, compressed air vents, drainage channels, hot and cold water pipes was built on the cellar ceiling to eliminate costs when machines are interchanged. The lay-out is highly differentiated and completely flexible.
Heating: Hot water piped from a single source underground sited north of the garage ramps can be extended at any time. The hall is heated and ventilated by two main ducts which reach down into the basement where used air is replaced. In summer months the system can function with cold water. There was no additional heating installed along the glass façade and experience in the first winter showed that even those areas immediately next to the façade were sufficiently well-heated and free from draughts.
Ventilation is exclusively provided by these ducts. Windows do not open and only the fanlights have lateral vents. Draughts are completely excluded. The heating installations have proved admirable in that the crane path above is in no way impeded by air channels as was the case in the more costly earlier projects.

Workshop in Dulliken

Architect: Fritz Haller
Collaborator: R. Dreier
Planned: 1962
Executed: 1962-63
(page 402–405)

The scheme for this extension of a watch bracelet works comprises the erection of a new fabrication hall and the transformation of the former shop into an administrative section. Expansion was rendered easy since the works had considerable land at its disposal. Since the former works was in many respects similar to living quarters it was feared that the new scheme would lose its former atmosphere and resemble a cold factory. Nonetheless, a consistent, carefully planned programme was able to retain in the new building a lively atmosphere as well as to create an economic unit. Our experiences here have indicated that this type of fabrication hall is adaptable to a great variety of works without the rather limited scope of the watch industry.
The 150 m^2 hall offers 50 work benches. Air-conditioning problems were studied carefully and latticed blinds were employed on the large glass surfaces to prevent the hall becoming too stuffy. In the summer months ventilation is achieved by the use of tilting windows. Normally temperatures are controlled, humidity levels maintained by the air-conditioning system. The air is preheated, filtered, humidified below the glass surfaces. Ultimately the air-conditioning installation will be complemented by a refrigeration unit.

Savings Bank in Kriegstetten

Architect: Fritz Haller
Collaborator: H. Weber, A. Rigert
Planned: 1961
Executed: 1962-63
Construction costs: 281 Fr./m^3
(page 406–412)

The savings bank had its origins in a competition in which, as usual, a definite spatial programme was given. We felt it our task to evolve a totally new technique for the building of banks which dispensed with the traditional characteristics: imposing counters, massive grills etc., and were consequently obliged to disregard to some extent the preconceived space programme. We conceived rather small niches for consultation purposes which would be separated from the main hall by folding doors. This part corresponds to the needs of the bank which forms the nucleus of surrounding farming communities, most of which visit the bank only occasionally and then to seek advice. Writing and telephone cabins are at the customers' disposal.
The "main office" on the ground floor is completely air-conditioned to avoid draughts. For economic reasons only air-heating was installed at first, controlled by anemostats installed on the ceiling. The spent air is retrieved via vents along the floor and re-routed to the cellar installations which are divided into three groups: north, south and reserve, each of which may be independently regulated. A refrigeration unit will be installed at a later date particularly as the small room in the southeast and southwest corners of the building show no tendency to overheating. In this way complete air-conditioning installations, with their dual function as sound insulation, amount only to 9 per cent of total construction costs as opposed to the normal 13 to 15 per cent.
To achieve minimal heat penetration through the outer glass it was deemed proper to install the blinds in front of the glass. The management of the bank, however, expressed the wish that these blinds also be used as sun-shades. This entailed the use of a weather-proof blind. Thus the blinds were ultimately set inside the glass and the glass itself is of the insulated glass type. The consequent saving covered the cost of refrigeration.
Construction is of reinforced concrete flagstones of massive proportions, a central area of reinforced concrete with external metal supports (Axis: 1.75 m.) which hold the façade. Certain imprecisions due to construction in situ were later obviated by the use of metal supports on bearings set in the concrete which ensured the precision necessary to the assembly of the façade.

From Neo-classical to Modern-Architecture in Transition
Opera House in Istanbul

Design, artistic direction and construction supervision: Ministry of Public Works
Principal architect: Dr.-Eng. Hayati Tabanlioglu, Istanbul
(page 413–416)

The planning of the Opera House in Istanbul goes back to the post-war years. The initial project had a neo-classical façade.

A. Constructional problems
The existence of the skeleton proved to be one of the greatest drawbacks in the conversion to a modern opera house since the latter must correspond to present-day technical, functional and organizational demands. The skeleton, designed poorly from the point of view of acoustics and visual possibilities, had nevertheless to be employed in the new project because of economic reasons.
From the city-planning and traffic point of view the new form of the Opera was also important. It was therefore necessary to make only those alterations which would not be prejudicial to the comfort of the audience and the requirements of the actors.
The stage section had to be built on to the spectator area. This was resolved successfully by utilising the land adjoining the audience building. Moreover, the large areas of wasted space in the lower floors of the audience building were sufficiently tempting to bring about the construction of a cultural center. New rooms were built which could serve for congresses and cultural events. In the basement a concert hall, studio stage and a cinema hall were built without alterations in the basic support construction.
The central position of the complex near the university, the technical high school and other important buildings is essential to the city-planning situation. The immediate surroundings of the opera house were, however, slightly less advantageous. Only the front of the buildings opens out on the square, while the rest is flanked by high apartment buildings and hemmed in at back by a foor-storey apartment complex. Thus the building was reduced in overall effect and did not show off to advantage as a distinctive silhouette or landmark. Only when the programme is finished will the building assume its rightful place as an architectural and cultural landmark in Istanbul. This depends largely on the skill and initiative of the architects.
B. As a basis for the execution of the project an official judgement on the project was passed in May 1957 calling for a programme which would present the opera house as a distinctive feature in Istanbul, emphasising in particular the importance of the façade on the Taksim Square, the need to curtail building activities on the flanks and the vital question of suitable traffic control. Changes in the auditorium proper were recommended. The stage facilities and the spectator area had, in short, to fulfil all the demands made on a completely modern opera house.
The horizontal lines of the surrounding apartment complexes were set off against the opera building by the use of twin towers and a vertically orientated façade construction. The space created by demolition work on both sides served also to heighten the planning effect and the opera house is clearly distinguishable from the University and Technical College buildings firstly by its location on the highest point of this area and, secondly, by its volume and form. Traffic control was improved by the creation of a broad square in front of the building ideal for pedestrian traffic. The opera house proper, the concert hall, the studio stage and the cinema are all accessible directly from this square which has itself been accentuated via greenery and fountains, as well as by pieces of sculpture.
An entirely new conception of the auditorium and the stage building was achieved:
The auditorium is served by broad stairways and festive hallways. The audience enters a spacious, high entrance hall which is linked directly to the cloakrooms and toilet facilities, proceeds to the parterre foyer with its stairways to the circle foyers. Special entrances lead to the boxes from side foyers.
The gala atmosphere is achieved by use of marble (floor and walls), divans, wide carpeting, paintings. Make-up rooms and toilet facilities are generously equipped.
The horseshoe form of the theatre corresponds to the turn of the century style. The third circle was demolished and alteration in the Upper and Dress circles undertaken, including addition of sides boxes, which enable perfect visibility, hearing and intimate contact between audience and players.
The parterre floor was re-laid, inclining towards the stage. The ensuing space between old and new floor was ideal for air-conditioning installations.

Dimensions:
Distance from metal curtain to back of Upper Circle along axis of auditorium: 33 m., broadest point: 26 m., height at centre: 11,5 m., volume of spectator area: 7600 m^3., Volume per spectator: 5.25 m^3., number of seats in Parterre: 905, number of seats in Dress Circle 308, number of seats in Upper Circle 235, total 1448.
The stage is composed of a front stage, back stage behind the metal curtain, main stage, side stages and back stage, an orchestra pit and an elevating podium.

Dimensions:
Main height
width of stage surface 24.84 m. approx., depth 23 m., travelling podiums and platforms 3×16 m., height of stage frame 9.50 m., width of stage frame 12 to 18 m.
Height of stage cupola above stage surface
Side stages, left and right: width 20 m., depth 20 m.
Revolving stage 16 m. diameter.
The stage surface, divided into 6 travelling platforms, can be inclined up to 17°.
In the spacious basement under the auditorium and the side foyer are the concert hall, studio stage, children's cinema, cloakrooms, toilet facilities and adjoining offices.

Number of seats:
500 seating room, 250 standing room. Area of orchestra podium 109 m^2.
The hall is sufficiently large to accommodate orchestral and choral performances.
Also from the right is the entrance to studio stage used for unusual, problematic performances and run-throughs.
The podium is in the centre and is surrounded on three sides by spectators. The podium can be raised or lowered. Lighting from back of hall and immediately above the podium can be varied considerably. An ideal arena for experimental theatre.
On the other side of the opera house is the children's cinema with its 260 seats, foyers, cloakrooms and toilets.
Other cultural facilities: an exhibition room overlooking the Bosphorus on the south side.
The restaurant faces on to Taksim Square. Its bar, 300-seat restaurant room and its dancing floor will make it a meeting-place for elegant Istanbul society.
The outer form of the Opera House is impressive, the Taksim Square façade, contrasting sharply with the side walls and rear wall in travertine and artificial stone slabs (largely hidden by surrounding buildings), dominates the square.
Façade construction in slim steel pylons on the inside carrying the glass wall and, outside, creating an exceptional plastic effect, a metal ribbing structure which gives shadow. The distance between the two "façades" is 65 m. The effect is to give a clear view from the halls and rooms. The transparent, differentiated texture gives the Istanbul Opera House its distinctive aura. The play of light and shade is unique within the building itself and floodlighting in the evening throws the imposing structure on Taksim Square into relief.

Arne Jacobsen / Otto Weitling Associates, Klampenberg / Copenhagen
The new entrance building to the "Herrenhäuser" gardens in Hanover
(page 417–420)

These gardens, a legacy from the kings of Hanover, are situated to the west of the city centre and are today ringed by residential quarters, (cf. "Bauen+Wohnen" 4/1964). They are composed of a two-kilometre-long alley rimmed with sycamore trees (the so-called "Herrenhäuser Allee"), the English-style "Georgen" garden, which houses the Wilhelm Busch Museum and the main garden, laid out in the middle of the 18th Century by French garden architects. A fountain with a jet 230 feet high forms the centerpiece of the latter. The castle of Herrenhausen itself lay formerly at the north end of this garden up to the last war when it was destroyed.
The city of Hanover has incorporated these gardens into its planning programme for educational institutions in that the horticultural college is set at the north end. The new art workshop school (Architect E. Zietzschmann), almost completed, adjoins the horticultural college and a Music and Drama School as well as a School of Commerce are envisaged.
Open air ballet performances are given each summer in the French garden. Up to the present temporary seats have been erected for these. Subsequent to the major exhibition of Arne Jacobsen's work, organised in 1962 by the director of the Art Workshop in Hanover and held in the orangery, Jacobsen was awarded two important contracts by the city of Hanover and the district of Lower Saxony:
He was commissioned to construct permanent grandstands, seating 600, a restaurant accommodating 350, a café for 700, a botanical museum, kiosks, cash desks and toilet facilities and a managerial dwelling. This entailed building a new main entrance to the main garden which served also to link it with the "Berggarten", Hanover's botanical garden. The task was two-fold: functional, in the case of restaurant facilities etc., but at the same time, demanding proper respect for the old plan of the court set in the axis of the alley. Jacobsen succeeded in solving this problem of integration in a convincing manner: his structure constitutes an optical liaison between the alley, the alpine garden and the mausoleum, all of which are linked by pedestrian tunnel. Massive stairways lead from the castle court to a platform overlooking the gardens. Above this platform rise two shells, carried on ferrous concrete pylons, which overlap and incline towards the gardens below. The upper shell structure is both grandstand and roof for the restaurant set between the two shells. The restaurant also retains the form of the shell. Beneath both shells is the open-air café. The construction is of steel with a "skin" of Polyester-concrete.