Zeitschrift: Bauen + Wohnen = Construction + habitation = Building + home : internationale Zeitschrift

Herausgeber: Bauen + Wohnen

Band: 21 (1967)

Heft: 9

Rubrik: Summary

Il fallait remplir les conditions suivantes lors de la construction de l'enveloppe portante:

1. Préfabrication industrielle,
2. construction d'un poids léger,
3. identité des surfaces extérieures et intérieures,
4. grandeur limitée des éléments (transport, montage, démontage),
5. Montage et démontage rapides,
6. Possibilité de réutilisation.

Il était indispensable de tenir compte de toutes ces conditions dans l'établissement des plans de cette construction qui devait, de plus, correspondre tout spécialement au caractère temporaire d'une architecture d'exposition. Avant d'arriver à son état final, le projet a subi plusieurs modifications et développements.
Système d'ordre spatial
Le choix d'un système d'ordre spatial modulaire correspondait au désir d'obtenir une limitation exacte de l'espace; la forme est déterminée par les exigences de la loi du système. Les formes spatiales contrôlées sont le résultat de l'adjonction d'unités géométriques. Dans le cas présent, on a utilisé comme élément de base, un octaèdre en liaison avec un tétraèdre.
Conception de la forme
Les corps géométriques octaèdre et tétraèdre peuvent être combinés en trois différentes positions spatiales. La possibilité d'autres combinaisons spatiales peut être obtenue en utilisant un nombre plus élevé d'octaèdres et de tétraèdres. La forme du Pavillon autrichien a été développée comme étant une des combinaisons possibles au moyen de l'addition systématique de corps géométriques.
Construction
Les surfaces enveloppantes des triangles formaient à leurs lignes d'intersection le système spatial du réseau sur lequel le système de construction est basé. L'épaisseur de la peau est de 7,5 cm. Elle est formée de panneaux Honeycomb couverts des deux côtés d'aluminium.
Eléments de construction
La formation constructive de tous les raccords de l'enveloppe du pavillon se compose de neuf profils.
Exécution
Pour édifier ce pavillon, on a utilisé au total 90 tonnes d'aluminium pour les profils et les tôles. Lors de l'exécution de la construction, le montage rapide des panneaux relativement légers constitua un des principaux avantages de cette disposition constructive.

Karl Schwanzer, Vienne

Le jardin d'enfants de la ville de Vienne à l'Expo 67 de Montréal

(Pages 365–366)

Le plan est basé sur l'idée d'ériger un bâtiment qui indique à ceux qui le voient de l'extérieur sa relation étroite avec le monde de l'enfant. Un système de boîtes de construction semblait donc, dans cette perspective, la solution la plus adéquate. Il est extrêmement aisé de composer les éléments en bois préfabriqués et multicolores qui constituent le bâtiment. Grâce à la formation en différentes couleurs du corps de construction, on a créé l'effet d'un édifice qui, malgré ses dimensions relativement petites, s'incorpore parfaitement aux autres bâtiments de l'exposition universelle.
Les éléments du jeu de la boîte de construction que l'enfant connaît déjà sont utilisés pour créer dans son esprit une relation spontanée et accentuer l'atmosphère du jardin d'enfants auquel il n'est pas encore habitué. Dans le bâtiment qui lui est destiné, l'enfant doit entrer avec joie et y retourner volontiers. Contrairement à la formation multicolore extérieure, l'intérieur du bâtiment est exécuté dans une seule couleur naturelle afin d'accorder à l'enfant la possibilité d'épanouir sa fantaisie. Ainsi, il crée un monde dans lequel il choisit et produit lui-même les coloris.
La répartition judicieuse et les matériaux variés du local permettent d'organiser des jeux individuels ou en groupes. Le travail dans ce jardin où se retrouvent des enfants de nombreuses nationalités doit démontrer que les enfants ne souffrent d'aucun préjugé ou complexe vis-à-vis d'autres bambins qui ne parlent pas la même langue ou qui ont une autre couleur de peau.

Summary

Günter Wilhelm, Jürgen Schwarz, Stuttgart

Experiences gathered in the planning and construction of indoor swimming pools

(Pages 332–341)

Considerations connected with comparative studies of 4 plans and constructions effected during the last 10 years.
Indoor swimming pool at Tailfingen
Günter Wilhelm in association with Karl Häge, Schwäbisch Gmünd
Indoor swimming pool at Kirchheim/Teck
Günter Wilhelm and Jürgen Schwarz in association with Karl Häge
Indoor swimming pools in Flensburg and Heidelberg
Günter Wilhelm and Jürgen Schwarz
The essence of the assignment is the construction of a hall enclosing and protecting a water surface. The impression felt while bathing under cover ought to be similar to that experienced in the open air. Modern technology and our knowledge of the physical problems involved now permit the building of a milieu where, summer and winter, bathers can relax and swim in conditions that give them the impression of being in close touch with the outdoors.
In the building itself, the entrance area, the cloakrooms and the technical installations are separated from the pool.

1. Entrance area, lobby, ticket window

A constant feature here is the clearly conceived arrangement of all the elements, the facilities for the orientation of the guests and those enabling the personnel to supervise the entrances and exits of the changing-rooms and other departments.

2. Access to and location of the changing-cubicles

There are three different ways of entering the changing-cubicles when the cubicles and the showers are located on the same level as the pool: access via an upper floor, via a lower floor and on the same floor.

3. Cubicle area

Basic conditions here are easy orientation for guests and effective supervision by the personnel of the changing tract. All installation elements are interchangeable. The cubicle and locker partitions are 1.65 meters high.

4. Showers

They are sited on the route leading from the cubicles to the pool. In general, the showers are located on the inside of a tract and not against an exterior wall. They are artificially lighted and ventilated.

5. The office of the superintendent of an indoor swimming pool ought to be located in such a way that he can supervise all entrances and exits and the entire surface of the pool as well as the diving-board.

6. View from the surface of the water

An endeavour is constantly being made to reduce the height of the edge of the pool as much as possible so that the swimmer's view is only minimally obstructed.

7. Measures taken to avoid slipping

The mesh width of the flooring joints is a determining factor in the prevention of slipping and skidding. A floor surface made up of tiles measuring 20×20 mm with 28% joints results in a considerable reduction of slipping danger. In cases where larger tile sizes with few joints are employed, there is recommended a ceramic tile with a profiled surface.

8. Colour scheme and materials

In order to obtain as harmonious a colour scheme as possible, light shades have been selected for the main hall and the changing-cubicles. To make the water clear, cool and attractive, the pool has been painted light blue, with a greenish tinge.

Günter Wilhelm, Jürgen Schwarz, Stuttgart

Heidelberg indoor swimming pool
Planning 1962–64
(Pages 338–341)

This indoor swimming pool is situated on an open site near the Neckar. The pool is approached from the south. The visitor reaches the main hall via a courtyard whose wings house the caretakers' quarters, the restaurant, the kitchen and a cafeteria. The lobby gives access, on the same level, to the changing-cubicles; a stairway leads to the grandstands (350 seats) and another stairway leads down to the bathing and sauna level.
The pool is on the same level as the changing-cubicles. There is a large pool measuring 20×50 meters for swimmers and 2 pools for non-swimmers as well as a small pool for children. Around the pools other spectators' seats are available. There is also a press stand. There is a total seating capacity of 700.
The building has a steel tubular construction with lattice girders running lengthwise and transversally.
The hall attains its greatest height above the 10-meter-high diving board and its lowest height above the non-swimmers' pool. The hall is completely glazed on the north and north-west sides. There is a view out over the Neckar and the mountains.
There is an eloxidized aluminium construction for the glass partitions. The wall parts in the low-lying tracts consist of reinforced concrete prefab elements with washed surface suspended from the reinforced concrete skeleton of the building.

CIBA Biological Research Centre, in Basel

Architects: Suter & Suter, Basel
H. R. Suter, A. Brunner, H. Barz, H. Seiberth
Engineers: Gruner Frères, Basel
in association with the CIBA Division of Engineering, Basel

(Pages 342–344)

The CIBA pharmaceutical and chemical research laboratories were built between the two World Wars. Since then, the biological sciences have grown in importance so that it has been necessary to take account of this development in any construction for the future. The new laboratories of the biological division of CIBA, in Basel, can meet all the challenges and requirements confronting biology. The complex is made up of two structures. The high-riser accommodates 11 floors of laboratories and 4 floors of offices, whereas the adjoining building houses all the supplementary technical facilities as well as the animal stalls. The 350 work units are occupied by laboratories (60%), stalls (10%) and administration, information and management offices (30%).
The plans were drawn up by an entire team owing to the complexity of the assignment.

Georg Gruner, Basel

Engineering work on the high-rise structure housing the laboratories

(Pages 345–350)

The building is 67 meters in length, 20.60 m. in width and 77.30 m. in height. It is a reinforced concrete construction. To reduce the diameter of the columns and to get a normal dimension, the columns are of steel up to the 6th floor. They are faced with concrete. The ceilings are of reinforced concrete slabs having a thickness of 14 cm. They rest on transverse beams at intervals of 3.30 meters.
As this building is the highest one in the city of Basel, it was necessary, when it was put up, to investigate a number of special factors, especially as regards the aerodynamics of the building, the incidence of sunlight and the conditions created by underground water.

Cedric Price, London
Collaborators: Stephen Mullin, Frank Newby

Potteries Thinkbelt – Project for an education industry

(Pages 351–360)

Instruction on the higher level ought to become an undertaking having an industrial character rather than remaining an upper-class education given by a few gentlemen to a restricted number of students. The "Potteries Thinkbelt" project presented here breaks with the present-day system of university teaching and with the special features of institutions of higher learning as presently organized.

It is vast enough to appeal to all social classes and to establish the point that an education is not only desirable but necessary.

Thinkbelt will possess a tremendous capacity, and its activity will be concentrated on the natural sciences and technology: it will be a kind of compromise between Berkeley (California) and an institute of technology. This plant consists of buildings that are generally utilized for a limited period so as to allow for the realization of ever new experiments. The complex will be constructed around a road and rail network which will furnish external and internal communications routes. In one word, Thinkbelt will be an immense triangle bounding the entire region around Stoke and Newcastle-under-lyme.

The Thinkbelt project is also a demonstration of the necessity for a more rational distribution of educational institutions throughout the country. When the plans were being drawn up, great attention was devoted to the local and regional traffic conditions (road, rail, air).

In its initial stage, Thinkbelt will accommodate 20,000 students. Therefore it will have an impact not only in its region but all over the country. The main accent here on the natural sciences and industry will create close ties with the faculties of sister institutions and will in this way contribute to eliminating the academic ivory tower.

In conjunction with the Thinkbelt project there is being built a considerable industry which will be in a position to give employment to many present and future inhabitants of the Potteries.

The Thinkbelt complex will be laid out on a totale land surface having an area of 260 square kilometers.

4 principal types of housing are envisaged:

Crate: openwork box principle,
Capsule: isolated cells,
Sprawl: isolated houses,
Battery: housing clusters.

With the use of these different types, the local building firms are not overburdened, because many elements of the buildings can be fabricated by other sectors of British industry, such as light metal parts or machinery.

Although Thinkbelt will have a population of 20,000, its total capacity will be 40,000.

The junctions tying the complex in with the British transport system will be located at the angles of the Thinkbelt triangle.

What is interesting about the Thinkbelt project is that its research installations are capable of opening up new horizons to industry, of reactivating some sectors of industry (ceramics, for instance) and of attracting others.

Karl Schwanzer, Vienna

A pavilion made up of 9 elements

The Austrian Pavilion at the Expo in Montreal

(Pages 361–364)

The intention here was to express the multiplicity of Austria in a striking building; therefore there was chosen, as a point of departure, a form of construction which transmits associations to crystalline structures. The arrangement of the construction, along with simultaneous reduction of the structural elements to typical basic elements, permits a diversity which, with its geometric precision, recalls the molecular structure of the elements of crystals. The prefab elements consist of aluminium frames.

The largest part of the exhibition site will be occupied by a theatre in which "Austrovision" will be presented. This will furnish a spectator who is unfamiliar with the country with a visual impression of Austria and will brush up the memories of those who have already travelled there. In a quarter of an hour Austrovision transmits an impressive number of images of Austria.

Construction of the Austrian Pavilion

The assignment

It was necessary to meet the following conditions in constructing the supporting envelope:

1. industrial prefabrication,
2. light-weight construction,
3. identity of exterior and interior surfaces,
4. limited size of elements (transport, assembly, dismantling),
5. rapid assembly and dismantling,
6. possibility of re-utilization.

It was indispensable to take into account all these conditions when drawing up the plans of this construction, which, moreover, had to be designed as a temporary structure appropriate for an exhibition. Before getting to the final stage, the project underwent several modefications and developments.

Systems of spatial order

The choice of a spatial modular system stemmed from the desire to obtain a precise spatial delimitation; the shape is determined by the requirements of the system itself. The controlled spatial shapes are the outcome of the combination of geometric units. In the present case, there has been employed as a basic element an octahedron in connection with a tetrahedron.

Formal conception

The octahedron and the tetrahedron can be combined in three different spatial positions. The ckossibility of other spatial combinations can be obtained by employing a greater number of these geometric bodies. The shape of the Austrian Pavilion was developed as being one of the possible combinations by way of systematically adding on geometric bodies.

Construction

The enveloping surfaces of the triangles formed at their lines of intersection the spatial system of the network on which the construction system is based. The thickness of the skin is 7.5 cm. It is made up of honeycomb panels faced on both sides with aluminium.

Construction elements

The structural formation of all the joints of the pavilion envelope is composed of nine profile sections.

Execution

In the erection of this pavilion there was utilized a total of 90 tons of aluminium for the profile sections and the panelling. At construction, the rapid assembly of the relatively light panels constituted one of the main advantages of this type of construction.

Karl Schwanzer, Vienna

The City of Vienna Kindergarten at the Expo 67 in Montreal

(Pages 365–366)

The plan is based on the idea of erecting a building which, when viewed from the outside, indicates its close relation to the sensed world of the child. A system of building-boxes therefore appeared to represent the optimum solution. It is extremely easy to put together prefab wooden elements of various colours to make up a building. Thanks to the varied colour scheme of the building, there has been created the effect of a building which, despite its relatively small dimensions, harmonizes perfectly with the other structures at the Expo.

The element of play in building-boxes, with which the child is already familiar, is exploited to create in his mind a spontaneous relationship and to accentuate the atmosphere of a kindergarten, something to which the child has not yet become accustomed. The child ought to be able to enter this building, which is specifically designed for him, with pleasure and want to return to it willingly. In contrast to the varied colour scheme on the outside, the interior of the building is kept in one single natural shade so as to give the child a chance to exercise his imagination. In this way he creates a world in which he selects and produces the colour scheme himself.

The judicious lay-out and the varied materials employed permit the organization of many different nationalities, is intended to demonstrate that children do not suffer from any kind of prejudice or complex when together with children who speak a different language or are of a different race.