Summary

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On this Issue 8/70

It is an undertaking entailing a certain risk to compose an issue of an architecture journal which presents a choice of prestige buildings, and it is all the more difficult when the choice is restricted to a particular field of architecture. Rightly or wrongly, some of the architects whose works are presented here will surely disagree with us on publishing their buildings from this standpoint.
The word "prestige" evokes the ideas of display, of respectability, of the striking, of the costly. If these notions are transferred to the sphere of architecture, where the execution of every idea always comes back to a problem of raising capital, we are induced to ask the question: who can afford to indulge in prestige building? In our social system at any rate, only a governmental entity or a financially strong corporation; the distinction between the two is, moreover, rather hazy. If we limit our choice to private corporations, then what constitutes prestige building is in fact office buildings, for they offer, often enough, a faithful image of the enterprise or of society at large to outside observers.
Even though an architect, faced with this kind of assignment, proposes not to create a prestige building, he will be compelled to fall into line anyway, consciously or not. The interview with the architect Janez Hacin makes this point perfectly clear. Erwin Mühlestein

The second part of the issue is a discussion of the outcome of instruction in an American technical school and gives, in the form of a portrait of the architect, a summary of the last works of the Heidelberg architect, Lothar Götz.
In contrast to the endeavours in European schools of architecture, the structural solution receives primary emphasis at the Illinois Institute of Technology. The question arises whether, under present conditions, innovation can be achieved through perfection in the technical field.
The buildings of Lothar Götz stand out because of their careful regard for functional relevance, their reserved design, and renunciation of mere fashion. They are carefully constructed and the detailing is thorough. In these buildings is expressed the outlook of an architect who conceives of building as a service to mankind. Jürgen Joedicke

Two theses on cable constructions

Study project of the Illinois Institute of Technology, Chicago

(Pages 285–292)

Wide-span constructions, which appeared as early as the last century, not only meet practical needs but are also remarkable for their architectural qualities, especially if they are accompanied by large windows.
The Crystal Palace of London (Ill. 1), entirely of iron and glass, with an area of 800 000 sq. ft., erected in 1851, was the first of its kind. At the International Exposition of Paris in 1889, with its machinery hall (Ill. 2), whose vaults span 375 feet, the vaulted hall attains its quintessence. This exceptional performance in the construction of three-jointed vaults had an enormous subsequent influence. However, it is the principle of suspension which has a great future in the field of wide-span structures. Bridges especially provide examples of this, and the Verrazzano Narrows Bridge (Ill. 3), the most recent, establishes an absolute construction record with a free span of 4260 feet. Ill. 4 compares different suspension structures on the same scale, while Ill. 5 gives the weights of different wide-span roofs. It can be clearly seen that beyond 200 feet the suspension system is lighter than all other construction systems.

Peter Pran

Plan for an exhibition hall with suspended roof

Consultants: Myron Goldsmith, Fazlur R. Khan, Davis C. Sharpe, Joseph P. Colaco, Srinivase Iyengar

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The free span of the plan is 1000 feet. An idea of this can be formed with the aid of the model of the DC-8 (Ill. 6–10). Comparative computations with various other conventional construction systems have shown that this suspended span was not more costly than, and was far more preferable to, the ordinary systems, which clutter up the available space with supports. This absence of supports along with the lightness of the structure constitutes a new aesthetic principle enriched by the light which generously streams into the volume of the building via translucent walls. The free space thus obtained is easier to utilize and to supervise than is the case with vaulted constructions or round shapes, whose heights vary from summit to periphery and which are difficult to modify.

Description of the construction system

The main cables tensed on the site or prefabricated have a diameter of from 10 to 13 inches. The interval between the cables has a bearing on the cost of the roof. According to estimates, the interval ought to be at least 50 feet.
The movements of the roof owing to temperature variations attain 18 inches for this span of 1000 feet. The roof has such a shape that the rain water can be led off towards the lateral supports. The supports are either anchored in the ground or mounted on knee-joints; the latter solution has been preferred because of its mobility with regard to expansions. Each prop, having a section of 8×6 feet, has a height of 241 feet. Anchoring is effected by means of a spreader composed of finer cables attached to the foundation. The building is also furnished with wind-bracing cables connecting together all the lateral props in the longitudinal direction. The external skin diminishes the risk of vibration.

Lawrence C. Kenny

A railway station in Chicago

(Pages 290–292)

This plan aims to satisfy the requirements of present-day rail traffic and of that likely to develop in the future. The building (Ill. 13), on three levels, is a huge glazed volume having a ground area of 900×600 feet and a height of 65 feet. The roof is composed of tensed cables on a grid of 150×150 feet.
On the upper level (Ill. 15) is the passenger hall. Mechanical stairs lead to the intermediate level of the tracks located 25 feet lower. Lower still is the bottom level accommodating the baggage services, the installations and parking facilities for 2000 cars. The roof (Ill. 16) is constructed as follows:

- The intervals between the cables (150×150 feet) are filled by main girders, secondary girders and domes of plastic. The total roof is divided up into 6 parts.
- From the end of a central prop exceeding the roof structure by 25 feet, 36 upper cables fan out and support the girder unions, while 20 lower cables furnish the wind-bracing.

Assembly: The main props prefabricated in two or three lengths are attached to the foundations. The roof structure is prepared on the ground and raised like a conventional floor, after which the cables are tensed. The very flexible complex is capable of bearing large tolerances.
Studies show that the weight of this roof increases only very slightly with increasing spans.

Three buildings by Lothar Götz

(Pages 293–304)

We have felt that it would be interesting to present a choice among the important buildings put up over the last few years by the architect Lothar Götz of Heidelberg, none of them having hitherto been published.

Lothar Götz
Associates: Klaus Unruh,
Bernhard Hübner

Cemetery buildings in Heidelberg-Wieblingen

The assignment of the architects was to plan the different structures required for the cemetery of Wieblingen (suburb of Heidelberg). Fully conscious that it was necessary to create something that would not mar the peace of such a place, the architects carefully avoided all architectural flamboyance and have harmonized the buildings with the parklike surroundings. The program, divided up into two parts, has taken shape in two buildings.
The larger one accommodates the mortuary chapel, the mortuary cubicles, a room for the priest, one for the mourning family, as well as premises for the funeral personnel.
The secondary building serves as a shed and houses the public lavatories. The construction is of wood, the roofs being of natural slate. All the walls are double and insulated in such a way that direct sunlight cannot create inacceptable climatic conditions. Large canopies have been provided against inclement weather, and all necessary protective measures have been taken.

Lothar Götz
Associates: Klaus Unruh, Dieter Jama

Group of twelve-storey residences, Mannheim-Vogelstang

What was required was to develop a type of twelve-storey standard residential block which, while offering the economies of public housing, possesses maximum comfort. It was sought to orient the living rooms as far as possible towards the south; none of them is sited on the north side. The plan has been so laid out that every resident has the impression that he is living in utter privacy.

Materials and construction

Since the Rhine plain has a severe climate, the outside walls are nearly all compound structures with an external facing of asbestos cement. Moreover, the plan is organized in such a way that the rooms of the flats are well insulated against noise proceeding from the technical installations.

Lothar Götz
Associates: Klaus Unruh, Rudolf Spitza

Building II for nurses and staff of the University of Heidelberg

The building accommodates the 170 nurses of the Heidelberg University Hospital. On the ground level are located the common tracts, while the living quarters and pertinent services are distributed over the 10 upper floors. The terrace is used as a solarium.
On the east side and on the west are studios with small entrances; on the south side are flats with kitchenettes and private sanitary installations; finally, on the north side there are concentrated stairways and snack kitchens. As this building is sited in a highly exposed zone of the Rhine plain, particular attention was devoted to the insulation of the walls. The facing is of Detopak panels or asbestos cement.
Likewise, steps were taken to provide the necessary acoustic insulation so that the nurses on night duty can sleep undisturbed during the daytime.