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Summary

Lenz Planen + Beraten GmbH, Mainz

Planning and execution methods Singer Factory project in Blankenloch/ Karlsruhe

(Pages 233–238)

The multiple problems created by communications, coordination, the application of service systems and the combination of technical and economic factors in the construction of industrial plants can be regarded as being specific signs of our age. All the static conceptions which seem applicable become increasingly less so as time goes on. The dynamic elements of information, communications and the integration in part bound up with economic expansion and the latest research findings are constantly being subjected to readaptation to the changing environment.
In the field of construction of industrial complexes, this implies the necessity of keeping up with the stream of developments, also during both the planning and the building processes. This was, in particular, the case of the building project under discussion here. Throughout the planning and realization phase, it was necessary to take into account the information coming in and the decisions made at the last minute.
The problem was to erect a factory building and the auxiliary installations within a predetermined time-limit, so that the products ordered by customers could be sent on schedule to all parts of the world.
In order to resolve the innumerable questions presented by such an assignment, it is necessary to have recourse to cybernetics. This system can now be constructed and programmed thanks to the data available. In our particular case, the distribution scheme control procedure was adopted. The Project Control System of IBM, which has 32 programs, serves as a basic system. For the distribution scheme, the "Precedence" process was selected.
All the activities are represented in the shape of small boxes. To facilitate handling, several distribution schemes have been set up. They are combined with one another, but can also be utilized individually. Owing to the distribution schemes, it was possible to take into account the multiple transformations and modifications which came up during the project.
The Singer factory site at Blankenloch, near Karlsruhe, has an area of 220,000 sq. meters, with 25,000 sq. meters allotted to production, divided into four large tracts one floor high built end to end and each measuring 60×85 meters, plus a smaller tract which it will be possible to enlarge. The office building has two floors. It covers an area of 1600 sq. meters.

Klaus Andrees, Hamburg

Hako factory at Bad Oldesloe

(Pages 239–241)

On the outskirts of Bad Oldesloe, near the Hamburg–Lübeck highway, the Hako firm acquired a building-site with an area of 100,000 sq. meters, which is sufficient for the expected growth of the company over the next 30 to 40 years.
The client and the architect managed to come to a perfect understanding. It was thus possible to proceed in a very consistent fashion and to draw up all the plans in detail before passing on to the first construction phase.
The main tract can be extended in two directions. The staff has access via the basement entrance. On this level are the cloakrooms and the lounges. Material deliveries and shipping are handled on the south side by means of a ramp that is partly covered over. In the first construction phase it is planned to install here the finished piece stockroom. During the other construction stages, production will take place in a similar tract.
In its final stage, the building will comprise a production and stockroom area of around 26,000 sq. meters. The office area comes to 4800 sq. meters, of which 2700 in a large tract and 1200 of office space have already been completed in the first phase.
After making cost comparisons between a prefab structure and one erected in situ, the client decided on the second. It has turned out, in fact, that the building "knocked together" on the spot is more economical than a prefab construction. The spreaders of two floors, of reinforced concrete, have also been made on the construction site.
The construction cost amounts to 230 DM per sq. meter. External installations and supplementary expenditures bring the total up to 270 DM per sq. meter. The figure for the office building comes to 160 DM per sq. meters.

Jakob Zweifel + Heinrich Strickler, Zurich

Agricultural Research Center at St-Aubin (Fribourg) of the firm of J. R. Geigy S.A., Basel

(Pages 242–246)

The department of agro-chemical products of the firm of J. R. Geigy S.A., Basel, requires the following research facilities:
plant protection station,
veterinary station,
agricultural station.
In the plant protection sector, there were needed, along with work sites, air-conditioned premises, greenhouses, rolling blocks and open space for planting.
The veterinary station accommodates chicken houses, pig pens, stables for sheep and for bulls.
The agricultural station ensures reasonable rotation of crops. It ought to possess a large capacity and be capable of adaptation to the special requirements of research projects. It comprises, in particular, a fodder central, which supplies mainly the veterinary station.
The complex of the Agricultural Research Center of St-Aubin is supplemented by an administration wing, a power central, auxiliary stations and a housing group.
The plant was built on a site located above the Lake of Morat, in the Broye region. The given factors of topography and the proven qualities of the soil were decisive in the selection of this place. The infrastructure, the construction of roads, water supply and power resources, as well as the problems of waste water, were all comprised in the planning work.

Christian Ulrich Merten, Mainz

Process models for industrialized construction projects

(Pages 247–251)

A year of study at the Bartlet Architecture School of the University College of London permitted the author to deepen his knowledge of the field of construction organization and processes, under the direction of Prof. Turin. This year was followed by a two-year association with a research project on construction processes at the Building Economics Research Unit, an Institute closely connected with the College.
During a first stage, this experiment concentrated on the establishment of factors influencing the sequence of construction process activities and their combination. In a second stage, an attempt was made to build a mathematical model with data from around 250 projects. This model was designed to yield findings concerning the probable duration of isolated activities under given conditions or under freely selected ones.
The theory of construction processes developed hitherto and the assembled data form the basis of the report. This reflects the conditions and the characteristics of building in England. The purpose of the report is to examine the flow of building projects, to develop a method to describe it and to present it and to organize all this in accordance with common criteria with a view to generalizing such processes within a restricted number of descriptive models. Special attention has been devoted to the possible influence of the industrialization currently being applied in building. This industrialization is now in an uninterrupted phase of development. Its characteristics are the employment of industrial techniques for fabrication of parts and execution of projects and the industrial organization of the participants involved and of the actual building process. Techniques and industrial organization are having influence on the actual flow of building projects and are expressed, despite their multiplicity, in typical combinations which permit generalization in the form of rules describing work flow and permit their concrete embodiment in models.
The notion of "industrialization" is described as "rationalization of the methods of teamwork with a view to greater efficacy of goal and means."
Three fundamental conditions are mentioned for the industrialization of a product: aptitude of the market, qualification of the product and capacity of the industry.

Matti K. Mäkinen, Helsinki

The dairy of Spittal on the Drave A theme with variations

(Pages 252–253)

The Project of the Spittal dairy represents one phase in the systems of development of a construction. These systems have been worked out over the last few years in the office of the author of this project and, simultaneously, under his direction, in the "building" department of the Valio concern (Central Association of Finnish Dairy Cooperatives).
In industrial construction, the main difficulty rests in knowing how to roof over a large production and stockroom surface as economically as possible. At the time of deciding which system will be employed on the roof structure, the builder takes the following factors into consideration: building tradition, economic selection of materials, officials, norms and regulations, natural light and technical installations.
After examination of the above-mentioned points, two plants were erected in Finland with a roof of self-supporting reinforced concrete plates resting on double spreaders furnished with continuous glazing running along between the girders.

Angelo Mangiarotti, Milan

Industrial building in Lissone

(Pages 254–257)

The mass prefabrication of building elements is a characteristic expression of our times, and at the same time it is in keeping with the requirements of "industrial design".
An example is a recently constructed industrial building near Monza, which houses laboratories, offices and exhibition rooms for the EIMAG. The carrying structure was entirely prefabricated at works, then transported to the work site and assembled in situ.
The individual component is clearly expressed in the structure. The building is limited to three characteristic elements. As a structural scheme, there was selected an "open" reference grid, which permits horizontal extension at any time, even after completion of the building. The shape of the spreader heads, even, expresses very suggestively the openness of the structure. Untreated concrete is the construction material. The material employed accents the main lines of development.

Bruno Morassutti, Milan

Factory at Longarone

(Pages 258–261)

The building under discussion here is situated in the industrial zone of Faè-Villanova, near Longarone. The plant produces electric condensers. In its present shape the building comprises a production wing and a two-storey office wing, which is tied in with the factory by means of a primary modular element. The two sectors constructed in accordance with the same structural and modular procedures are distinguished only by the difference between the materials employed in the external and internal walls and partitions.
The spreaders consist of sections composed of electrically soldered 6-mm. sheet metal. The ceiling planks are made up of a double row of angle-sections following the x and y axis. Between the planks seperated by a space measuring 85 cm., there are the ducts and mains. The external walls are composed of prefab panels with sheet metal frames. The suspended ceiling is made up of moulded asbestos-cement boards. The building represents a prefab structural system entirely determined by its elements. Nevertheless, it lends itself to transformations and can assume different shapes and dimensions.
The system demonstrated is characterized by four basic possibilities as regards variability of composition. They are as follows: Enlargement or reduction of surfaces on horizontal towards the rectangular axes; exchange of high and low elements inside the building volume; incorporation between the volumes of different heights; addition of floors above the present roof level.

Actuality

Roland Ostertag, Leonberg

The town hall of Bissingen/Enz

(Pages 262–266)

Bissingen, a community of around 10,000 people, is situated in the valley of the Enz, 25 km. from Stuttgart. The agglomeration is part of the industrial zone surrounding the capital of Baden-Württemberg. In 1900 Bissingen had a population of only 2000. At the present time, its population is continuing to grow. However, from the town-planning point of view, the qualitative development of the village is not proceeding parallel to the quantitative expansion. Aside from a few exceptions, the level of the building is not of a high standard; moreover, an excessively rapid growth and all the secondary effects resulting therefrom have aggravated the situation in the original village core. That is why it is of such crucial importance to renew and reorganize this centre.
In the course of the last two decades, improvements have been restricted to the infrastructure. That is why, from 1960 on, the community was faced by the necessity of building new premises to house the town administration, accommodated up to then in the old Town Hall constructed in 1600, when the village had a population of 800.
The new town hall was erected in the centre of the old village core. The building constitutes the first step in the process of transformation and renewal.
The tracts most frequently used by the public, e. g. the registration office, the social services, the municipal treasury, the police station, will be sited at entrance level. The first floor will accommodate the board rooms and the mayor's office.