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

**Herausgeber:** Bauen + Wohnen

**Band:** 26 (1972)

**Heft:** 5: Krankenhausbau - integriertes Gesundheitszentrum = Bâtiment hospitalier - centres médicaux intégrés = Hospital construction - integrated health center

**Rubrik:** Summary

# Summary

### Integrated hospital center

This new notion expressed in two currently fashionable words, integration and center, in fact has to do with something that is absolutely vital to all of us: our health. This notion is fascinating because of its simplicity, for it seems to be the ideal hospital reform, but it is at the same time violently resisted for the very reason that it is vague and imprecise, all the more so as the hospital is already undergoing a process of transformation; this can be seen in the introduction of progressive therapy.
The notion of "integrated hospital center" expresses very well the character of a service which would transcend that offered by a hospital for acute diseases. However, it is precisely in this "transcendence" that the greatest vagueness makes its appearance in the juridical and financial domains, as well as on the planes of staff and organization.
To serve as a basis for discussion of the possible structure of such a center, we are presenting in this Issue the theoretical conception of a team of different specialists. We are publishing as a finished example the St. Elizabeth hospital illustrating the American concept of a general center (Community Health Center). With these examples Building + Home carries on the policy of presenting new themes and formulating them with precision for the use of architects.

### Cantonal Hospital, Aarau

W. Brauen, H. J. Hajnos, Koelliken

(Pages 207–210)

The project presented here is the outcome of a competition begun in 1968. The existing hospital installations are old, dispersed pavilions. The architects' problem was to discover a solution offering a long-term range of possible alternatives and at the same time guaranteeing rapid realization of the first stage. In all, there have been envisaged 4 realization stages. The problem is being further complicated by the integration of a medical school.
Contrary to current conceptions of hospital construction, the ward tract is in this case not vertical but "fanned out" in low-silhouette buildings above the corresponding treatment tracts. This permits large-scale mechanization of services, staff economies and increase in flexibility.
In order to carry out effectively such an idea, studies were made in the following fields:

- Functional utilization
- Connections and communications
- Power network, etc.
- Structural and carrying elements
- Organization of installations and special equipment.

With a view to getting as neutral an installation as possible, a certain number of postulates were proposed:

- Any function at all can be carried out at any point of the hospital
- Construction can be commenced or extension continued at any point of the complex
- The power mains and outlets can be laid on in various directions
- A building can always be adapted to any unforeseen function or financial situation.

Beyond the construction of the first stage, the realization of the extensions will be carried out by way of a well defined strategy.
Distributed on the different floors from bottom to top we have the following elements: out-patients, treatment rooms, patients' garden, wards. The latter have a total of 2000 beds. The research and training buildings will be built separately after the pertinent political decisions have been taken. The whole complex is drained by a system of non-sterile and sterile conduits, the latter for the patients and the nursing staff. The power lines, etc. are integrated with these conduits.
From the first stage and after each new extension, the hospital will continue to function as an organic unit.

### A hospital with 275 beds

Town-planning and architecture studio
Maurice Novarina
Brugger, Dagnaux, Lebreten
Associate: M. Richard

### Hospital of Thonon

(Pages 211–213)

The new hospital of Thonon is installed in the park of the Morillon estate. It is made up of 3 parts:

- The technical block with emergency division, revival, biology, pharmacy, mecano-therapy, X-ray, surgery and maternity departments
- The ward unit: 100 double rooms and 75 private rooms
- Two large-area levels accommodating the maternity clinic, the nurses' quarters and those of the chaplain, plus chapel.

### Planning and realization of a general medical center (Community Health Center)

Stefan Lange, Chrysanth von Steinbüchel-Rheinwall, Cologne/Washington

### Saint Elizabeth Center, Lincoln, Nebraska

(Pages 220–224)

The existing hospital was built in 1887. The planning team attacked the problem of defining the function of the St. Elizabeth hospital in its region and also of inventorizing the existing installations with a view to its future role. (Increase from 200 to 500 beds).
It was decided to realize in 2 stages a hospital complex comprising the following elements:

- 440 beds for serious cases
- 60 beds for long-term patients
- Medical center comprising 25 to 30 offices
- A nursing school with nurses' lodgings
- Quarters for married and single students
- A cloister for religious sisters
- A leisure complex for 150 to 200 people
- A home for the aged.

The different planning stages integrated training of future staff, with simulated exercises. The first patients were admitted in May 1970.
Structurally, the first stage of the center is a 6-storey building with a steel skeleton. On the 3 upper levels there are 208 beds in single and double rooms. Each ward level is equipped with the following services or installations:
ACC (Administrative Central Center). A secretary with various communications networks TCC (Team Conference Center). Discussion center for doctors and nurses CSR (Clean Supply Room). Linen supply via an automatic transport system Galley (kitchen per level). Automatic distribution of pre-cooked meals Nurserver. Service locker with non-sterile and sterile parts next to each patient. On the lower levels there is a combined surgery and maternity department, which is highly rationalized. The two services function parallel to each other. Here there is also an accident division and an out-patients' clinic.
The complex is integrated with a transport system which is highly perfected (AWT) serving stores, preparation of meals, disinfection, laundries, sterilization, etc. For the first time in the USA, St. Elizabeth's applies the pre-cooked food system (Ready Food System). The patient can select his own menu and his meal hour. The pharmacy works on the standardized dosage system (Unit Dose System).
Built-over area: 24,180 $m^2$
Profitability level attained at 69% occupancy (exceptionally low)
Staff: 1.9 per patient (US average: 2.5 to 2.75).

Integrated hospital center

Jürgen Joedicke, Walter Mayer, Stuttgart-Nuremberg

### Definition of the aims and studies of functions with the aid of the A.T.I. method

(Pages 225–228)

This method was developed within the scope of studies on an integrated hospital center. A team of specialists drawn from different disciplines was entrusted with the assignment. Over and above the actual hospital center, the problem was to plan a complementary complex comprising preventative measures, treatment of out-patients and post-hospitalization care.
The principle of the method consists, based on systematic surveys of those concerned, in interpreting and defining the results obtained from these surveys and in drawing up the bases for planning in diagrammatic form. In the first phase a comparison is made between existing resources (is-condition) and the demands of the specialists questioned (ought-condition). This permits the discovery of unresolved problems and the avoidance of functional trouble later on.
The classification and then the analysis of the replies to the questions show the overlapping of different limitations and throw light on certain vaguenesses. The goals set are then represented diagrammatically to reveal clearly the gaps and to define partial alternatives (III. 2). With the aid of a special matrix (III. 3), an examination is made of compatibilities and incompatibilities.
The number of possible remaining models is then reduced by the marginal value method. The latter consists in establishing for each solution a maximum model (ideal solution) and a minimum model (the indispensable).
At this stage of the study, 3 models remain. Research is then concentrated on the maximum model 1 (integrated hospital center) and maximum model 2 (new formula hospital). Diagrams showing the functional zones and their relations are then drawn up. These structured schemes are called integrated structures. What is meant by this is a series of interdependent elements which must be studied in a global manner. III. 4, 5 and 6 illustrate different schemes corresponding to different types of complexes. The schemes of III. 9 and 10 represent the various zones and their relations in the shape of continuous lines (direct relations, contiguity or obligatory proximity of premises) or discontinuous lines (indirect relations, with premises capable of being separated).
This account gives only an inadequate picture of a long-range project. Experience shows that methods stemming from other disciplines cannot be employed in architecture except after having been adapted to practical findings.

### Furnishings and interior fittings

Heinz Mohl, Karlsruhe

### Tulla Pharmacy, Karlsruhe

(Pages 229–232)

The problem was to renovate and extend a pharmacy situated at ground-floor level of an old building of outstanding architecture. This is why there is no display window in the face, so as not to destroy the aesthetic effect of the building.
Building materials: Terra cotta floor tiles, suspended ceilings, uniform fittings with counters and shelvers of white tiling.

### 6M System

Volker Hahn, Alfred Steinle, Stuttgart

### A variable system using prefab elements

(Pages 233–236)

The labour shortage and the incessant rise in costs are leading to the industrialization of building and are causing a transition from handicraft techniques to prefabrication.
A unitary module is the prerequisite for any prefab building system. The international module M = 100 and its multiple derivatives, 6 M = 60 cm, are very flexible and give the architects and designers maximum freedom.
The 6M system comprises posts, beams, floor slabs, partition elements, face panels, staircases and fittings.
Posts: Square in section (30 × 30, 40 × 40 cm), they are sited every 1.20 m at the least with possible spans of 10.80 m. Beams: The "M" beams, which are shaped like an inverted U, are statically superior, and they can be easily assembled with the posts. Used as peripheral girders, they can assume an L section (semi-section), and they can function as parapets.
Floor slabs: These are ribbed slabs (TT) having a standard width of 2.40 m. To the right of the supports, the ribbing is notched, and the tops of the slabs rest directly on the supports. As employed in big garages, such slabs, which are prestressed, have had spans of 17 meters.
The partition elements are generally one storey in height and also serve as reinforcements against wind effect.
The staircase units are also prefabricated; the best formula has turned out to be that with central stringer.
The face panels are either of monolithic light construction or multi-ply sandwich elements. They are usually placed in front of the posts; their exterior surface can be treated in various ways (rough framing, washed concrete, ceramic tiling).
Assembly is effected dry and is independent of climatic conditions. The various pieces are assembled via tenons or welded anchor irons.
The construction systems can be complemented by fittings such as partitions, ceilings, skylights, etc. . . . They are independent of the carrying structure.
Such a system is still far from being the industrialized building, but it greatly facilitates the work of the engineers and the architects, who, along with all those involved, ought to have a positive attitude towards the system.