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Summaries in English

Summaries and translation by Dr. J. Hull

Flexibility in hospital construction

(see page 155)

We shall need half a century to modernize the Swiss medical plant. This is a worldwide problem.

It is bound up with the increase in population, technical advances, a new public health philosophy and a new outlook on the part of the medical profession. The large new medical centres meet the problem in various ways. It is interesting, however, to note that, apart from a few exceptions, most of the new medical centres have been erected on the sites of the old hospitals, and this has entailed construction and operational difficulties.

It is also proper to analyze the structure of a medical centre. These structures are evolving and are of varying importance. Five big categories of users can be distinguished:

- the administrative staff
- the medical and nursing staff
- the patients
- professors and students
- the research staff

The centre thus has to be polyvalent, all these categories being interdependent. There is a factor of "supply" and one of "demand" in the medical field. Since medical science is undergoing constant evolution, the various users must constantly adapt to new circumstances.

Hospital construction, then, requires that the architect understands the mechanism of a hospital and the functions of its different users, to understand all their complex interrelationships, and all this must precede any concern with building design. The architect, thus, is a kind of catalytic agent, integrating the work of a wide range of specialists. His job is to produce a spatial realization of the total set of functions.

Owing to constant scientific and technological advances, a hospital has to be designed so as to meet emergent future needs.

This applies not only to internal organization but also to the technical side, including the use of interchangeable building elements.

In less than half a century it will probably no longer be possible, for political and economic reasons, to renew Swiss hospital equipment. It is therefore necessary, starting now, to build flexible and extensible plants, where the architect has a leading role to play, on the basis of precise planning, in order to meet new developments in medical science.

Plan for the regional hospital of Sion, Herens, Conthey VS

(see page 163)

The hospital consists of a 2-storey flat-roofed structure which can be extended in all directions; it will accommodate medical services and hospitalization, with a 10-storey tract with two wards on each floor. Two intermediate floors house the staff restaurant, bed supply and technical installations.

Treatment tract

Floor A is divided up into three areas:

- public area with entrance hall, administration, welfare service, auditorium and classrooms;
- therapy area;
- utility area with kitchen, stores, records and workshops.

Floor B is articulated into four wings: the out-patient, emergency and X-ray wing, used equally by out-patients and hospitalized patients, medical supervision, maternity and infants' division, plus operative tract.

The circular plan of the ward tract (430 beds), with central organization, makes it possible, over and above normal requirements, to meet special needs, such as intensive care, contagious cases, etc. At the present time a number of different variants are being developed in detail and tested.

Commencement of construction: summer 1974.

Insel Hospital, Berne

(See page 166)

The architects' assignment was to abandon in stages the old pavilions of the Insel Hospital dating from the years 1870 to 1890 and by erecting a centralized modern complex to do justice to the requirements of a university hospital with around 800 beds. The project was conceived of as a sequence (new building – removal – razing – new building) that was intended to disturb normal operations as little as possible.

The treatment tracts are grouped around the ward tract, with four stories being accommodated underneath it. They are subdivided into the following groups:

- operative tract, first stage
- operative tract, second stage
- treatment level underneath the ward tract
- physical therapy (planning stage)
- out-patients' clinic, third stage (replanning required)

The main volume of the ward tract created enormous structural problems, since the maximum building length is around 104 meters, the highest point with TV aerial on one side around 70 meters, and 78 meters on the other side. For one thing, the building had to be divided up, structurally, into autonomous expansion zones (also with regard to wind incidence), and, in addition, it had to be set up on a foundation plate owing to the unfavourable character of the ground on the site, which means that this plate has to carry enormous stresses.

The major structural problems resulted from the wind incidence, which can give rise to extreme torsion effects owing to pressure and suction.

The second building phase

The second building phase comprises the high-rise ward tract with around 750 beds, two surgical offices, the medical office, the neurological office, etc. There are also accommodated in the ward tract the following:

- the out-patients' radiological clinic
- the hospital administration
- the central secretariat with records
- further service installations

The west operative tract comprises primarily the surgical and orthopedic divisions. Another operat-

ing-room is housed in the ward tract. The orthopedic offices and research labs are also located here, plus those of the central X-ray department. Most of the area is occupied by the following: X-ray (overlapping with east operative tract), main chemical lab, main hematological lab, central sterilization department, etc.

Triemli Municipal Hospital, Zurich

(See page 170)

Of the 128 000 m² of the Triemli site on the north-east slope of the Uetliberg, only about 10% are built over.

The hospital building is articulated into the following tracts:

- high-rise ward tract with 16 wards and a top floor with panoramic terrace and facilities for occupational therapy;
- treatment tract, 2 to 4-storey foundation structure;
- utility tract, 2-storey foundation structure;
- emergency division, 2 stories, resting on piling.

The standard ward contains 42 beds and is organized as follows: On the southeast side, on the main corridor, there are 6 double and 6 quadruple rooms, each of which has its own toilet and locker. On the east and west sides there are again three single rooms with toilet, and on the north side, the utility rooms.

Bed patients starting from the reception hall reach the emergency division, with small rooms for out-patients, as well as the operative division with two theatres and annexes, a plaster-cast room and an X-ray room. The X-ray diagnostic division is located on the ground floor. Eight examination rooms are grouped around a core with a darkroom and two developing facilities. The out-patients' clinic was subsequently integrated with an intensive care ward with 13 beds for surgical and medical cases. On the first floor is the operative division with eight theatres and the required annexes. Underneath the high-rise tract are the offices for surgery, medicine and rheumatic cases, with corresponding facilities.

The same floor accommodates, above the utility tract, the rooms for physical therapy, with special treatments department. The entire operative division is set up on the air-lock principle and is centrally supervised. At first basement level are the rooms for X-ray therapy, plus a subsequently installed department for radio-medical examinations. On the same floor are the medical-chemical laboratories and the pharmacy; at second basement level are the pathology division and labs and section rooms. A central patients' and X-ray records room with reading-room is located on the east side of the treatment tract. The third basement contains technical installations only.

The 2-storey emergency hospital with its own entrances and exits was put underground in the vicinity of the high-rise ward tract.

Data:

Hospital building	209 400 m ³
Technical building without ambulance department	37 406 m ³
A staff residence	23 666 m ³

Limmattal Hospital, Schlieren ZH

(See page 174)

The Limmattal Hospital in Schlieren was erected as a regional hospital under the auspices of ten

townships. In the centre of the complex is the actual hospital with a large lawn on the south and a planted ridge to shield it from traffic noise. The hospital has 406 beds. The first basement, ground floor and first floor contain the administration, the diagnostic and treatment divisions, plus emergency and intensive care wards, and the kitchen facilities. These floors are practically square and are built around an interior courtyard. There are 6 lifts, and connected with them, above a mezzanine floor with the labs, there is the high-rise ward tract containing 12 superimposed nursing units and a general ward.

Cantonal Hospital, Geneva

(See page 178)

The Cantonal Hospital in Geneva is a striking example of the diversity and complexity of the problems confronting the architect in a large-scale hospital project. It also has to be borne in mind that this project has extended over 30 years, since the first competition was organized in 1944, while the first stone was laid in 1949.

Over the years, the first project – which was modest, as Geneva at the end of the war was poor! – has grown to an extent that neither the authorities nor the architects would have been able to foresee.

As the population has grown, medical techniques have changed profoundly, and this has called for ever more complex equipment. The result has been a series of modifications in the initial plan which have eventuated in the present complex, which is certainly not the shape it would have assumed if the original plan had been realized.

Psychiatric Clinic, Embrach ZH

Under construction since 1973 (see page 182)

The main idea of the project for the Psychiatric Clinic in Embrach is a lay-out resembling that of a village. The units are loosely grouped around a compact village centre. The latter is like a village square, on which face the common rooms (shop, café, library, auditorium) and the workshops. The residential units are closely connected with this centre, which is intended to give the patients a feeling of belonging to a community. Motor accesses lead into the centre, but not through it. The service entrance is underground. The utility tract is situated close to the occupational therapy tract. The individual rooms were distributed over separate pavilions, in order to avoid an atmosphere of concentration. The latter consist of two full floors, each with a ward and a basement level with the common rooms and a spacious, covered seating area in the open. These lounging areas were regarded as preferable to long narrow connecting roofs, as these would not be very inviting.

New neurosurgical division of the Cantonal Hospital, Aarau

(see page 186)

The legislature of the Canton of Aargau in 1972 approved unanimously a new hospital concept which constitutes the basis for the planning of all hospital plants in the Canton. Within the scope of this forward-looking Cantonal goal, the Cantonal Hospital in Aarau, as a central hospital, in addition to basic medical care for its region, also assumes comprehensive medical responsibility for the entire Canton. On January 31 1972 the functional and spatial programme was made available as a planning basis and as a general tender; in January 1973

the new wing could be occupied in stages. The 5-storey neurosurgical building, with a basement, is directly connected with the emergency entrance and is also closely associated with the X-ray division and the already existing surgical division. Four floors of wards are supplemented by a treatment and examination level and by a supply level. Technical services are effected via a connection to the already existing underground lines and mains of the Cantonal Hospital. Every 100 beds are divided up into five semi-wards, each containing two nursing groups. The treatment and examination area comprises a small operation division, an intensive treatment division with five beds, as well as various special examination rooms.

The building was erected by means of an industrially manufactured spatial-element building system.

Total construction costs amounted to Fr. 9,300,000.–.

District Hospital, Herisau AR

(See page 191)

The district hospital of Herisau was built directly behind the old hospital building. During construction the old hospital could remain in full operation. The new building comprises the 6½-storey ward tract, the 1-storey utility tract adjoining on the north, the 2-storey examination tract projecting to the southwest and the 2½-storey operative tract adjoining the wards on the northwest. The hospital is reached from the west side via a new roadway which gives access to the main entrance, the car parks and the service yard located behind the wards.

The ward tract

The various divisions are accommodated on five floors as follows:

- 1st floor: surgical division, 22–25 beds; intensive division and emergencies, 5–9 beds;
- 2nd floor: maternity and gynecology, 24–29 beds plus 24 infants;
- 3rd floor: medical division, 31–35 beds;
- 4th floor: geriatric division (chronic patients), 31–35 beds;
- 5th floor: private division, 23 beds.

The ward comprises four rooms with 5–6 beds, five rooms with 2 beds and an isolation room. On the ground floor are the canteen and lounges for doctors and nurses.

The recessed 2nd floor contains the maternity division, and the 1st floor is occupied by the operative division. Two aseptic and one septic operating rooms, an emergency room and the central sterilization room are arranged on a double-corridor system in such a way that there is a complete separation between the septic and the aseptic parts. On the ground floor, bed patients in a closed room are unloaded directly from the ambulance and placed before lifts that carry them to the emergency division and the wards.

St. Otmar nursing home, St. Gall

(see page 195)

Architect: Brantschen BSA/SIA, St. Gall

The St. Otmar nursing home in St. Gall is a private institution, with the city and the Canton participating in the building costs, 40 % and 30 % respectively. The T-shaped building stands on a west slope on the western side of the city. The three nursing tracts, each accommodating 24 patients, are superimposed one above the other, and are connected by a bed and a passenger lift, as well as by a stairwell, with the main hall, the kitchen and the utility rooms. Building volume: 18 500 m³.

Pop – 0815 – ordinary and ugly

(See page 202)

The architecture of Robert Venturi

(Robert Venturi, John Rauch, Denise Scott Brown, Gerod Clark, Steven Izenour)

Although Robert Venturi raises his questions in connection with almost typically American cities like Las Vegas and Levittown, they are, nevertheless, interesting for us in Europe, because we can observe already in our cities the developments that have accumulated on a vast scale in America. Some of these features are over here assuming proportions that are almost American.

In revolutionary theoretical projects he, his wife Denise Scott Brown and Steven Izenour create the outlook, the fundamentals and at the same time the theoretical analysis of sites for their office, "Venturi and Rauch" (Associates: Robert Venturi, John Rauch, Denise Scott Brown and Gerod Clark). Their houses are often confused with 0815 architecture, which is sufficiently well known, and established American architects call Venturi's work "ordinary and ugly" – thus Philip Johnson and Gordon Bunshaft on Venturi's Fire Station No. 4. It was inevitable, however, that the ordinary and the banal would be seized upon by architects too during the heyday of American Pop. At the present time, we are already a little removed from that time, and we can try to give a summary picture of it.

Levittown?

Las Vegas and Levittown are popular American towns, and they represent something for which the architect can only find an honest word: phenomenon. Sociological studies praise the dormitory town of Levittown on the periphery of Philadelphia which is now called Willingboro and which, from the air, looks like the storage area of a prefab housing factory; they praise it for its favourable living conditions and because the residents are satisfied with it. The sociologist Herbert J. Gans shocked most architects with the result of his investigation entitled "The Levittowners – the sociography of a 'dormitory town'", because they only too willingly closed their eyes to this reality.

Robert Venturi took up the challenge. The study entitled "Learning from Levittown", which appeared at Yale University in 1970, attempts to make clear what architecture has contributed to the success of Levittown. In this context the term architecture stands for plain and simple, largely identical detached houses, most of them typical American frame houses, which fact per se rules out any architectural individuality. The relatively wide interval between houses, the deep front garden and the winding street in front all suggest, at least when seen from a passing car, the atmosphere of a country estate. When the visitor examines them in detail, he finds at nearly every house highly individualized combinations of old wagon-wheels, rococo lanterns, an imaginative number plate, a rudimentary fence or hedge, as well as an original mail box. These additions are usually spread out so that the impression of broad spaciousness is reinforced. Regardless of whether all these symbols can be interpreted as American suburban iconography, they do create for the individual family a sense of identity.

"Since the critics believe in the validity of their own criteria of value, they refuse to acknowledge the existence of a lower-middle-class and working-class life style. They describe the people as conformists without any opinions of their own... The world of the upper middle class, which claims a monopoly on individuality, is to a high degree characterized by a competitive struggle for social prestige."

This outward-directed individualism is not really

Continued on page 234

represented in Levittown but is very much the main feature of Las Vegas, although there the technicians and designers of YESCO (Young Electric Sign Company) influence the image of the town much more effectually than any architect. Yet owing to its excessive consumer orientation and its irremediable banality, Las Vegas is cited by most architects only as a negative example.

Las Vegas?

Robert Venturi put this question to a group of students at Yale University: "If it is all so bad, why then is it so inspiring?" The thoroughly timely counsel of Andy Warhol: "...if you just look at the surface of my pictures and films and me myself, there I am. There is nothing behind it all" was applied to Las Vegas and led to the following considerations:

1. Las Vegas and the Strip (main street and central axis of Las Vegas, the central line of orientation for the whole town) as a phenomenon of the national and local economy.
2. Intensity of utilization of the region in general and of the Strip in particular.
3. Links between activities on the Strip and next to it.
4. Circulation systems for cars, through traffic, pedestrians, rail traffic, air traffic for the region, and pedestrian movements, cars and through traffic on the Strip.
5. Extent and rate of flow of different categories of traffic at different times.
6. The relation between activities and movement along the Strip.
7. The Strip as a recreation system, as promenade.

The study "Learning from Las Vegas", which was completed in 1972, was based on extensive mapping, covering, for example, types of site utilization, asphalted surfaces, cars, car rental agencies, wedding chapels, illumination intensity, all signs

legible along the Strip, as well as air views, views from behind the steering-wheel and sequences of building fronts.

The principal findings can be summarized as follows:

- Most of the hotels, casinos and supermarkets are low, flat-roofed structures, because this keeps down building and air-conditioning costs.
- They are set back from the street, with car parks in between.
- The buildings sprawl and thus assume a monumental appearance.
- The lateral façades are specially designed, because they are seen most from the street. The front elevation is of less importance, and the rear is devoid of importance.
- Along the 3.9-mile-long Strip there are enormous advertising signs (some of them up to 22 stories in height) of casinos and hotels, which can be read even at a distance by speeding motorists. Above: trademark, emblem. Below: more detailed information.
- Smaller advertisements – more information for the motorist drawing up close.
- Special architectural styles to identify large amusement centers (Moorish, Etruscan, Neo-Gothic, etc.).
- Other types of space manipulation (inside as well as outside); spaces are not determined by material shape and natural light, but by artificial illumination, which generates luminous bodies and shapes. The building with no illumination at all has only structural and technical functions.

The "Decorated shed"

Along with his descriptive and critical observations on Levittown and Las Vegas, Robert Venturi elaborates a prototype of a building, which will probably play a major role, and not only in these two towns, the so-called "decorated shed".

Definition: Spatial systems and construction serve the building programme; ornaments are appended independently.

Theory of the ordinary and the ugly

"We avoided cluttering our buildings; we ruled out left-over elements, chance distortions, sudden inspirations, remarkable exceptions, unusual diagonals, things inside other things, forced or evaded complications, wall facing or brick masonry, left-over space, superfluous space, ambiguities..."

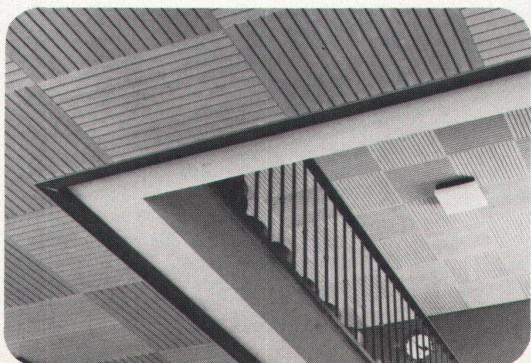
There has been in our work but little absurdity, compromise, compliance and capacity to adapt, little overlapping, little equivalence, no multiple foci, or volumes that are simultaneously good and bad. Most of the complexities and contradictions which we toyed with we did not use, because we did not have the occasion to use them".

The image of ordinariness and ugliness begins with the popular character of these buildings, and continues via their anonymity and banality, including even the decorated false front.

The seemingly arbitrary selection of ordinary banal objects has the effect that suddenly one ponders these things, if only because these familiar things have gone on existing in a way that was not expected of them.

And if we hold it against Robert Venturi that the mixed media architecture of Las Vegas has merely commercial aims, whose Roman, Gothic and New England symbolism no longer convey what it really means but merely create sales sensations, the only conclusion he draws for contemporary architecture is that it is indispensable to apply such sensational tricks. They are based on popular symbols. No wonder if all of a sudden a house looks funny, witty, impudent and jocular. Are our capacities for experience so stuck and jammed that we can no longer understand a joke? Joking is human – why then should not architecture be allowed to joke? ●

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z.B. Deweton-Akustikplatten

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