Les projets présentés veulent également illustrer que la statique est une partie intégrante de l'architecture et que sous cette forme elle ne suscite plus cette horreur traditionnelle chez les étudiants, car ils ne se sentent pas limités dans leur travail créatif, mais secondés, car leurs travaux perdent ainsi leur part de dilettantisme.

Martta et Ragnar Ypyä, Helsinki

Ecole Spéciale Banquaire de Pohjoismaiden Yhdyspankki Vuosaari près de Helsinki

(Pages 411–418)

L'ensemble se compose de salles de cours séjours, salles à manger et dortoirs, car les cours pour toute la Finlande sont concentrés à cet endroit. En oûtre, on a les locaux représentatifs de la banque et un hôtel.
Donc, en plus des problèmes dus à la complexité du programme, il y a celui du niveau social très différent des divers occupants de l'ensemble.
Le terrain se situe sur une pente sud au bord de la mer. Il est couvert d'une fôret peu dense, de blocs erratiques et d'une végétation basse épaisse.
Pour s'intégrer à ce paysage, le parti est pavillonnaire. Au nord, 5 volumes forment un angle ouvert paur les accès. Ils comprennent l'administration, les salles de cours, de séjour et à manger avec les cuisines et les logements pour employés. L'hôtel s'oriente sur le lac. Au bord de l'eau on a en plus un sauna, des tremplins etc. Les bâtiments principaux sont reliés entre eux par des passages couverts vitrés.
La partie ouest de l'hôtel est destinée aux hôtes extérieurs, la partie est sur deux niveaux, comprend les chambres des internes, orientées au sud et vers le lac. Accouplées par deux, les chambres peuvent être subdivisées par des parois pliantes de manière à satisfaire aux diverses exigeances, selon le niveau social des hôtes. Une telle unité peut comprendre de un à quatre lits. Les trois petits pavillons carrés au centre du terrain sont destinés respectivement à l'administration et à la réception, avec à l'étage des salles de cours, à des séances en auditoire subdivisible et à la restauration. L'étage supérieur de la cantine comprend des salons de réception pour la banque. Les services, à l'écart de l'accès des visiteurs sont situés au sous-sols des logements pour employés.
La structure est, soit squelettique, soit composée de parois intérieures pleines porteuses. Or, les matériaux apparents sont indépendants à la conception statique. On ne souligne pas non plus la flexibilité intérieure relativement simple. Le plan masse est agréable, sans pour autant exprimer un parti fort. Le charme de l'ensemble réside dans l'exécution soignée et depuis l'étude poussée des détails architecturaux.

Summary

Sports Arena and Exhibition Hall in Genoa

(Pages 380–383)

Plan: gruppo studio palasport, Genova
Coordinator: Franco Sironi
Architects: Lorenzo Martinoia, Franco Sironi
Engineers: Leo Finzi, Remo Pagani

This plan was also subscribed at the time of the competition by P. L. Nervi, A. Nervi and L. Daneri.
This circular hall with a diameter of 160 meters, a maximum height of 27 m., comprises an arena permitting the setting up of a track for cyclists 222.22 m. in length. The playing field is 40×70 m. The hall is equipped with all the necessary installations for a skating rink, a boxing ring with 10,000 spectators, a track with 7000 spectators and an exhibition surface of 30,000 sq. meters.
The structural idea is based on the notion of adaptation to the various uses of the hall by means of different systems:
whereas the sports field requires a clear surface without supports, an exhibition area can very well be subdivided. This idea has likewise dictated the plan of the hall. The building comprises a central tract intended for sports events and an external zone used for exhibitions. The exterior ring is of reinforced concrete. At each girder level there are two supports arranged radially to receive the sleepers of the roof structure. The sleepers of the ground floor have a large canopy projecting outwards, a small one inwards, those on the first floor the reverse arrangement, and those of the roof canopies projecting in both directions. Thus, the interior heights, especially those above the exhibition surface vary greatly and produce highly differentiated volumes. The exhibition hall is of reinforced concrete, whereas the roof above the sports arena is composed of a network of cables made up of two bundles of pre-stressed steel cables anchored at the head of the canopy sleepers. In the centre, they are separated by a spreader system with the shape of a hyperbolic paraboloid. The upper bundle serves as support to a roof of translucid synthetic plates.
The cable tractions are taken up on the periphery by a compression ring which transmits the normal constant loads and the oblique variable loads to the heads of the sleepers. Thus, this construction, which in itself is logical, is directly in keeping with the requirements of the program:
a light steel cable construction spans a large space and a solid reinforced concrete construction serves to anchor the whole building.

Heinz Isler, Burgdorf

Technique and typology of concave shell constructions

(Pages 384–388)

When you expose a soap bubble formed within a framework to a slight pressure on one side, there is formed a swelling on the other.
According to the choice of the framework and the intensity of the pressure, there results a multitude of shapes which are all endowed with the following ideal characteristics:
minimal surfaces
the radius of Gauss curvature is constant throughout the entire surface
the soap bubble everywhere undergoes the same traction
the bubble does not undergo thrusts nor moments
When there is employed a rectangular or square framework, there is obtained a sort of hill the shape of which could be more or less applied to concave shells.
If this shell is supported by oblique props around its entire periphery, its own weight and the snow load have the same effects as the pression on the soap bubble.
The reactions change only their sign, for the force of gravity is downwards and the gas pressure upwards.
The shell thus reacts only to compression; its reactions are everywhere equal; it does not undergo thrusts nor moments.
By addition of loaded elements, it is possible to replace the oblique supports by four single corner supports.
However, the normal reactions are no longer equal throughout the shell, but they nowhere constitute traction reactions, and the thrusts and the bending moments are very small. This concave shell supported at the corners is a roof element that is ideal for hall constructions of all kinds.
Even a single shell offers advantages: an interior space that is support-free, free lateral span and a high degree of architectural unity.
The simplicity of the shape of the roof reveals the physical laws involved. When one juxtaposes these shells, one can create halls of indeterminate length, whose interior is support-free. However, as the length of the shell is comparable to its width, even very long halls preserve an expansiveness that is in no way constrictive.
However, the real advantages of these shells emerge only when assemblages are effected in both directions. As the supports are located only at the junctions of the corners of the shells, large spaces can be roofed over with a minimum of intermediate supports: a fourelement hall comprises but one intermediate support, a nine-shell hall only four. The order of size of this type of shell executed during the last few years in many countries ranges from 300 to 400 to 500 sq. meters. There have been erected mainly square elements, but there are also rectangular elements.
Now then, it is possible to obtain surfaces with a base of 1600 sq. meters beneath one single shell supported at the corners.
Despite the economy of this type of construction, a large hall of nine elements has not yet been realized (40/40 m.: 14,400 sq. meters).
Examples: cf. Illustrations
The standardized sizes which are desirable owing to the cofferings could be held to in only 60% of the cases, because the size and the shape of the given sites required a special adaptation in each individual case.
The large skylights of polyester guarantee adequate illumination for the halls (dome with 5 meter diameter for a shell covering 300 to 400 sq. meters).
For the calculations, it is necessary to take into consideration the fact that a skylight of this type furnishes at least double the light of lateral windows.
Now then, the orientation of the elements is of no consequence.
By means of electric mechanism, or pneumatic or hydraulic ones, the skylights can be raised to assure excellent ventilation without draughts. The heat that accumulates beneath the dome in summer can pass out directly. Without great modifications, the peripheries of the shells can be transformed into travelling stages, use being made of the same sections for the cables. Light cranes (1 to 2 t) can be directly anchored in the shell with local reinforcement. The execution of these shells is extremely rapid. It is a kind of pre-fabrication. As these coverings are water-tight from the start, the interior fittings can be effected at any time.
The rough work on a shell measuring 100 sq. meters, for example, requires about 10 to 14 days with a trained crew, and an equal additional length of time for the reinforcement.
These shells have minimal surfaces, which means savings on material costs. Only the building of the coffering is more complicated than on conventional projects. Now then, a system of structural elements that are very simple cuts down this difficulty greatly.
The long-term resistance of shells is little known. It would therefore be interesting to observe already constructed projects.
Dimensions of the largest construction of this type: 54/58 m.: 3200 sq. meters covered by a single shell. Results:
The diagrams show the vertical deformations of the shell during the first four years. At the beginning, there can be ascertained a swelling due to the prior stress. In the centre, there are shown the deformations registered during a sunny day. The last point indicates the state four years after execution.
It will be noted that the maximal sag is less than 15 mm., which is equivalent to one 5000th of the diagonal span. According to the admissible tolerances, there could be accepted a sag of 26 cm.
As the thickness of the shell at the summit is 15 cm., thus equivalent to that of a building deck whose span is 100 times smaller, it is can be said that shells with double curvature are economically feasible.
The shape of these shells, moreover, by no means depends on a rectangular or square plan and on right angles.
Other shapes can be elaborated by experimenting on models.
The following drawings show some concave shapes which are integrated in a system of lines and points.
The sketches of theoretical principles, published in B+W 8/59, have in the meantime been developed and applied. It is certain that the near future will open up numerous possibilities on the above-described basis permitting the construction of shells that are formally and functionally satisfactory.

Harrison and Abramovitz, New York

Auditorium of the University of Illinois, Urbana

Engineer: Amman and Whitney
Completion: 1963
(Pages 389–393)

This polyvalent hall is situated on a square site, surrounded by roads and a parking ground accomodating 2000 cars. The sharply ribbed dome on an oblique foundation dominates the whole.
Curving ramps give access to the entrance level, intermediate, from where there can be reached, up and down, the seats, which slope up steeply around the arena. The semisubterranean utility level, accessible via stairs from the entrance, but with direct access from the outdoors, comprises the box offices, offices, assembly rooms, restaurants, kitchens and sanitary facilities for visitors. The basement level accomodates cloakrooms, lavatories and storerooms.
The round arena with 15,863 fixed seats along with supplementary seating is designed for meetings, sports events, concerts and dramatic performances. By means of movable partitions there can be created an autonomous area having the shape of the chord of a circle, with 4200 seats.
The hall is entirely air-conditioned and is constructed of reinforced concrete. The canopy is composed of 24 curved elements, constituting a net structure. At the top they are pulled together by a compression ring, and at the base by a traction ring. Thus, this is not a shell construction.
Execution began with the traction ring and the compression ring starting from a freestanding scaffolding. Then, the ribs were poured in pairs facing each other. The foundation is also reticulated. It transmits the loads from the dome to the recessed supports, and supports the lower grandstands.
While the compression ring, the reticulated structure of the dome, the traction ring and the reticulated structure beneath this ring are of light concrete, the supports and the circular foundations connecting the supports are of heavy concrete.
The diameter of the base of the dome is 121 meters, the height of the top is 18.20 m. The thickness of the reticulated structure is uniformly 8.9 cm., its maximum height is 2.27 m. Under the structure there has been introduced a water-bar and an insulation layer of agglomerated cement and wood plates 5.08 cm. thick. The exterior insulation is assured by 4 layers of synthetic material. Rain water is taken by a gutter housing the traction ring and is led to the ground via the cavities of the reticulated structure.
Critical Commentary:
In comparison with other halls of these dimensions, the purely functional structural conception is clearly in evidence. The arena is set off on the inside by the rows of seats and by the dome. What delimits the interior volume is visible plastically and structurally on the outside.
This clarity is due to the absence of exterior pillars, like those on the sports arena in Rome, for instance. On the contrary, it is the foundation of the lower grandstands that serves as support for the dome. This is a simple and logical resolution of the problem, but one that is difficult to carry out. The recessed oblique glazing of the ground floor emphasizes the vigour of the architectural conception.
Now then, criticism can be made of the formal design of the actual dome, and especially of the unions between the traction ring and the reticulated structure, as well as of the shape of the ribbing. The double curvature of the construction jeopardizes to some extent the clear visual impression of the complex.

Jürgen Joedicke, Stuttgart

Architecture and construction

(Page 394)

Despite the importance of the term "construction" in the parlance of architects, it remains an ambiguous word.

Is it a purely abstract term?
Does it describe the structural design or simply a technical regulatory principle? To define this term more precisely, it is useful to observe the processes of realization on which the construction is based:
each construction is backed up by a computation defining the shape, the material and the dimensions of the project.
The computations are made in two stages:
static computation, determining the equilibrium of forces under the influence of external loads.
determination of dimensions taking into account material resistance.

Static systems:
1) static system
2) hyperstatic system
1) the weight proper comes into the evaluation of the moments, etc., but the final design of the building is not thereby affected.
For a weight that is identical with elements of different design, the diagrams of the moments and stresses remain identical.
Now then, for the dimensioning of a structural element on the basis of stresses and determined loads, it is indispensable to determine the shape as well.
For example: the reaction of a beam can be expressed in terms of a very simple quotient. The computation of a hyperstatic system is profoundly different.
The resistance to the external loads depends entirely on the shape of the building, which is determinative for the internal reactions and for the dimensioning of the structural elements. For example, in the computation of an articulated frame, there enters in the relationship between the moment of inertia of the column and that of the sleeper.
For the static computation (aside from static systems), the a priori determination of the spans and of the sections of a structure is indispensable. As this entails the choice of a perceptible shape, the formal determination thus precedes the computation.
Therefore the term "construction" is neither an abstract term nor a regulative principle, but it is perforce tied up with the idea of a concrete shape. Construction = structural design.
Moreover, this same meaning will be encountered in other technical domains, for in mechanics "construction" signifies, e.g., the composition and the formal determination of the elements of a machine and their assemblage.
When we speak of "construction" in architecture, it is a question of the elements which guarantee the stability of a building, i.e. its resistance to external stresses. Construction is therefore the sum of static supporting elements necessary to the equilibrium of a building.
If this definition is exact, the essential criterion can only be stability.
However, other criteria are now being introduced, especially when the discussion bears on the relationship between architecture and construction. Thus, there is required a shape expressing exactly the static givens and as effective a utilization as possible of the building according to the maximum of admissible loads. However, these requirements are essential only for large-span buildings, where the materials are subjected to maximal stresses.
The shape as well as the dimensions of a bridge with a span of 1000 m. are dictated entirely by the statics and the resistance of the materials, while a beam with a span of 10 m. can have various shapes, for the materials will never in this case be subjected to maximal stresses.
Therefore, the more small spans are involved the more arbitrary is the determination of design and the more independent it is of static considerations.
The example of the bridge illustrates very well the possibilities of choice involved between different construction systems:
a span of 1000 m. requires a suspended construction, while a span of 10 m. permits any type of construction at all. The span likewise influences the choice of materials: for 1000 m. span, nothing but steel comes into question; for 10 m. span, all materials are available. Now then, the opportunity and the dilemma confronting modern architects reside in the possibilities of choice in static systems and materials, according to the criteria relating to effectiveness which dictate a shape adapted to the diagrams of the moments and the stresses and the minimal sections necessary to resistance.
The sole criteria of choice have to do with the question of stability, the shape and the materials being adapted to the given loads and reactions.
However, construction qua architecture is not only subject to static criteria, for it delimits spaces, it becomes a plastic and structural element. The design of a suspension bridge is purely and rationally functional like that of a hammer or a racing-boat designed in the 19th century.
That of a building depends on complex criteria that are difficult to determine, which become increasingly arbitrary as the project departs from the limiting case.
Thus, the choice of column dimensions, on which a building rests is not dictated primarily by the loads and by the utilization of materials up to the limits of their resistances, but by aesthetic and plastic criteria, by the will to give the building an expression of lightness or of massive security.
Likewise, the design, which is entirely adapted to the statics of the ground floor structure, of the UNESCO building in Paris is not a necessity, but is in keeping, above all, with the will to render intelligible the supporting system of the building.
Thus, in architecture, the criteria of choice can not remain concealed behind purely functional needs (as in the case of great works of art). They are, above all, aesthetic in character. They are part of a system of arbitrary choice which depends on the author's will to expression.
Now then, the wish to set up theories determining the criteria of choice stems from the lack of assurance that architects are now experiencing in the formal realm.

Kenzo Tange

Sports Arena in Tokyo

Plan: 1962

Execution: 1963/64

(Pages 395–398)

Aware of the responsibilities involved in a project of this size, I should like to thank all my co-workers who made possible the rapid completion of this arena, which will serve Japanese athletes after the Olympic Games are over.
The structural principles were worked out by Yoshikatsu Tsuboi with his associates, the architecture in association with Koji Kamija and the members of the Urbanist and Architects Team (Urtec).
The complex is made up of a large hall for 15,000 people, with two swimming pools likewise serving as a skating rink, of a small hall for 4,000 people, with grounds intended for all sports and of a connecting building with the administration offices, a restaurant and a promenade.
The essential problem consists in the selection of the bearing system, which is a suspension system for static reasons, in view of the large span, and for economic reasons, for the concavity of a suspended structure takes up less space than the convexity of a dome which is more difficult to heat, and for architectural reasons, for steel is a material whose possibilities have not yet been exhausted.
Personally speaking, the selection of this open design is interesting to me because of its psychological significance. This kind of design does not produce an enclosed feeling, permits a natural passage between the two halls and future extensions, which are perfectly easy to realize. The principal element of the halls is constituted by the cables suspended between two large supports and anchored at the end of the buildings. The grandstands, of half-moon design, situated along the cables, are curved in their upper portion to permit a better view. The roof structure is suspended between the cables and the grandstands: it is made up of numerous cables and steel girders. The opening formed by the space between the two cables serves as a skylight. The loads are transmitted to the foundation via the foundation structure of the grandstands. The exterior skin, which is curved, is reinforced by the connection between the upper curve of the grandstands and that of the cables.
As the connection between the space and the construction became more intensified in the course of the study, the different elements are difficult to distinguish in isolation.
For example: the location of the cables is narrowly bound up with the formal design of the grandstands.
All the givens, as much as the people responsible for the designing, are closely involved in one another: the slightest modification immediately had repercussions in other spheres, functional, structural, even spatial, where maximum visibility remained the prime consideration.
The greatest difficulties were presented in the coordination of the work, for the project had been entrusted to specialists who were in danger of losing sight of the over-all picture. From the beginning of the construction project, the work had been decentralized, which made all but impossible an over-all check.
Finally, a supervisory office on the construction site grouping together all the specialists improved the situation.
As the spatial planning had been confided to around 20 persons, each of whom had his own design ideas, coordination was not easy. Now then, unity of design is indispensable for such a large space. Despite the utilization of the modulor, it was difficult to think in meters and centimeters, when the dimensions are in terms of 100 meters.
I do not think that I have achieved this unity of design: For the realization of the stressed roof structure, a foundation, compressed, was necessary. Thus, the arc constitutes the basic principle of constructions in concrete, but this has not been adhered to strictly.
Although the hall was determined by the steel of the big cables and concrete of the large supports, there are many other materials employed, such as aluminium, glass, marble, etc. which somewhat impair the effect of unity.
In the small hall, the structural materials are supplemented almost entirely by wood. The dominant colours are grey and brown.
To resolve the spatial problems, there was arranged a system of collaboration between sculptors and painters. (Sculpture by Seiji Shimizu in the large foyer, mural ceramic by Yasuo Mizui in the foyer of the small hall.) There has been sought an integration of the arts, and the sculptors were considered in the architectural conception.
The design of the furnishings also forms part of the over-all study (polyester stackable seats by Sori Yanagi, conference room furniture, and fittings for restaurants and reception rooms, etc.).
The idea behind the connecting building was not determined until well after the formal design of the sports arenas, at the time of the study covering the grounds and the entrances. This transit building serving essentially as a linking element is a corridor along which are located the aministrative offices and, at the end, the restaurant and a training pool. The roof structure, which is accessible, becomes a promenade for the visitors of the two sports arenas.
The siting of the buildings on the grounds as well as the over-all integration are, nevertheless, not satisfactory.
Visually considered, the site is too small for such an architectural mass. And what is more, there is insufficient parking space for the tens of thousands of visitors. Moreover, it was necessary to create a passageway for pedestrians at the Harjuju entrance, which is not successful. It is also regrettable that the Shibuya entrance is situated in a district of such high urban density. The surrounding buildings, such as the town hall, the office buildings and government buildings, however, of recent construction, are of such unequal quality and function that they will never form a satisfactory unity with the sports arena.

Structural conception

(Pages 399–404)

A Large Hall

Foundation structure:
It is composed of two arches at 180° to each other beginning at the support and leading toward the opposite pylon. In the central tract, the arches rise from the ground and fan out to form roof elements. The supports and the foundations of the pylons are interconnected by traction cables. As the supports are not located in one single plane, these cables are folded over. To take the roof loads, the partitions are articulated at the edges of the pylons. In the central tract, the suspended girders of the roof structure are attached to the fan elements of the arches, to transmit the loads to the base of the grandstands, which serves the function of a sleeper.
Roof structure:
Two cables 33 cm. in diameter, made up of 31 steel wires 52 mm. in diameter, and 6 cords 345 mm in diameter, are stretched in the longitudinal direction of the hall across two pylons and anchored in two foundations.
The distance between the pylons is 126 m., the maximal sag is 9.635 m. The cables are interconnected by elements which maintain the distance and, in the centre, by a net construction. The maximal distance is 16.80 m. and 2.58 to the right of the pylon.
Perpendicular to the main cables are suspended girders which are supported, on one side, on the cable via an articulated support and, on the other side, on the half-moon periphery above the grandstands. Height between 50 and 100 cm., thickness of core 12 mm., dimensions of wings: 22/190 mm.
The engineer has this to say:
The first plan provided cables as well for the secondary structure. Now then, the pronounced curvature of the desired roof proved to be unfeasible economically; thus, cables were given up in favour of traction beams. In case of an asymmetrical load, the beams serve as reinforcement. The distance between the beams is 4.50 m.
Perpendicular to the suspended beams there are ropes passing via openings in the beams serving to pre-stress the whole complex.
The roof is made up of metal plates with soldered joints. As the surface has a double curvature, a supplementary static effect similar to a shell effect is provoked by the metal plates thus soldered together.
B Small Hall
Foundation structure:
In plan it forms an arc opening between the support and the pylon. The arc leads toward the foundation of the support and of the pylon and rises in the central tract above the ground. The arc is split in the centre in a manner similar to that of the large hall, to form upper and lower curves which are interconnected by frame elements. The extremities are solid. The Vertical elements take the suspended beams of the roof.
Roof:
A spiral steel tube connects the apex of the pylon with the support. The tube is joined to the pylon by spreaders. Between the spiral tube and the reinforced concrete support, which is circular, there are arranged suspended beams which take the roof composed of intersoldered metal plates.

Pedestrian catwalk crossing a highway

(Pages 405–410)

Practical project of the course on "Practical Construction" of the Department of Architecture of the Institute of Technology in Stuttgart (Prof. Curd Siegel).
Construction projects ought to make the student realize the realization possibilities open to him, for models, well illustrating his plastic ideas, all too easily permit a brushing over of static and structural incompatibilities.
Moreover, projects based solely on a logic of computations do not necessarily entail architectural qualities.
Thus, at the time of the elaboration of a project, the architectural conception can not be dissociated from a structural idea, the importance of which is equivalent to the creative conception and entails repercussions on architectural expression.
The preferred subjects of study permitting a realization of this interdependance are: cable-railway stations, aircraft hangars, water standpipes, sports arenas, ski jumps, railway stations, grandstands, etc.
The problem presented to the students of the upper courses is put in a real context which takes account of other than merely technical factors: this

catwalk for pedestrians is tied in with a parking area, it is supposed to take account of the fact that human beings will use it (question of human scale), and the site has a very uneven surface.
3 types of solutions emerged from this study in the work of 40 Students: projects resisting bending, compression and traction, whose formal aspects are the immediate result.
Moreover, the basic conception ought to reveal clearly the static system adopted. The system having been selected, it is then a question of computing the essential sections for dimension the job and verify its shape.
A complete static computation is neither the aim nor the purpose of the architect. All he needs to do is to establish approximate dimensions emerging above all from a comprehension of the functioning of the different static systems.
The verification of the project by means of a model is indispensable. The models, then, are essential to the job, aside from a descriptive report setting forth the theoretical deductions and the method of procedure of each student, summary calculations, sketches and plans.
The projects presented are intended also to illustrate that the static system is an integral part of the architecture and that under this shape it no longer arouses that traditional feeling of horror once felt among students, for they do not feel limited in their creative work, but, rather, encouraged, for their efforts no longer appear to be dilettantish.

Martta and Ragnar Ypyä, Helsinki

Special Banking School of Pohjoismaiden Yhdyspankki Vuosaari near Helsinki

(Pages 411–418)

The complex is made up of classrooms and lounges, dining rooms and dormitories, for the courses for all of Finland are concentrated in this place.
Moreover, there are reception rooms and a hotel.
Thus, in addition to the problems arising out of the complexity of the program, there is the problem of the very different social levels of the students attending.
The site is located on a slope facing south on the shore of the sea. It is covered with a light stand of forest, boulders and dense undergrowth.
To facilitate integration with the landscape, the architects opted for a pavilion lay-out. On the north, 5 volumes form an open angle to accomodate the entrances. They comprise the administration, the classrooms, lounges and dining rooms with the kitchens and the staff quarters. The hotel faces the water. Near the shore there is also a sauna, exercising apparatus, etc. The main buildings are interconnected by covered glazed passageways.
The west tract of the hotel is intended for outside guests, the east tract is on two levels, comprises the students' rooms, facing south over the water.
Arranged in pairs, the bedrooms can be subdivided by folding partitions to meet varying requirements. A unit like this can include from one to four beds.
The three small square pavilions in the centre of the site are intended for the administration and for reception purposes, with classrooms on the first floor, a subdivisible auditorium and refreshment room., The upper level of the canteen comprises reception rooms of the bank. The utility premises are located at basement level beneath the staff quarters.
The structure is skeletal or based on interior supporting walls. The visible materials employed are independent of the static conception. No emphasis is given, either, to the relatively simple interior flexibility. The over-all plan is agreeable, without, for all that, being sharply accented. The charm of the complex resides in the careful execution and in ther fine detailing.

Unsere Mitarbeiter

Nos collaborateurs
Our collaborators

Martta Ypyä
Architekt SAFA, geboren 1904.
Praktik: acht Jahre Militärministerium, Bauabteilung von 1929–36, fünf Jahre Abteilungschef in HSB, Stockholm, eigenes Büro seit 1936 mit Ragnar Ypyä zusammen.

Ragnar Ypyä
Architekt SAFA, geboren 1900.
Praktik: Architekt im Militärministerium von 1926–36, Stadtarchitekt in Viipuri von 1936–40, Oberarchitekt im Militärministerium 1941–44, Professor in Baulehre an der Technischen Hochschule in Helsinki 1947–49, eigenes Büro seit 1936 zusammen mit Martta Ypyä.

Arbeiten in Finnland, Schweden und Dänemark: Militärgebäude, Geschäftshäuser, Schulen, Krankenhäuser, Wohnhäuser, Wohnhaussiedlungen mit Wohnhausplänen und Stadtplänen.
Einige von den ausgeführten Arbeiten in Finnland: Friedhofkapelle in Viipuri, Kunstwollfabrik Walkeakoski mit Wohnungssiedlungen für die Arbeiter, Zentralkrankenhaus in Helsinki und Universitätskrankenhaus in Turku, Bankschule für die Bank PYP-FNB nahe Helsinki. In Schweden: Wohnungssiedlungen in Stockholm, Vesteras, Arvika, Jönköping. In Dänemark: Zentralkrankenhaus Glostrup-Kopenhagen.

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