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PAIMIO HOSPITAL
FOR INCLUSION IN THE WORLD HERITAGE LIST

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Nomination of Paimio Hospital for Inclusion in the World Heritage List

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VARSINAIS-SUOMEN SAIRAANHOITOPIIRI
EGENTLIGA FINLANDS SJUKVÅRDSDISTRIKT

METLA

Foreword

The human scale and clear clean lines of Functionalism of the tuberculosis sanatorium that Alvar Aalto designed at the end of the 1920s are still strongly evident in the present day Paimio Hospital. The hospital can be described as a *Gesamtkunstwerk*, all the aspects of which – the landscape, the function, the technology and the aesthetics – aim to promote the well-being and recuperation of the patients. The ideal of modern architecture, to function as an instrument in caring for man, is still evident in the hospital milieu.

This proposal for the inclusion of Paimio Hospital as a World Heritage Site has been prepared in the National Board of Antiquities, Department of Monuments and Sites. Also several other institutions and private persons have been involved in the work. There has been a close cooperation with Turku University Central Hospital and representatives from Paimio Hospital, in particular senior nursing officer Leena Järvi. Other important cooperating parties have been the City of Paimio and the Finnish Forest Research Institute (METLA). The Alvar Aalto Foundation, the Museum of Finnish Architecture and Architects Laiho-Pulkkinen-Raunio have provided expert assistance.

A warm thanks to all parties and persons involved in the work, who have in a positive way influenced the preparation of the Paimio Hospital World Heritage presentation.

On behalf of the National Board of Antiquities

Maire Mattinen,
Director of Department,
Department of Monuments and Sites

Fig. 1. An aerial view of the hospital area from the southwest.

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Fig. 2. The patients' sun balcony wing.

1. Identification of the Property

1.a Country

Republic of Finland

1.b State, Province or Region

Province of Western Finland, Turku Region, City of Paimio

1.c Name of Property

Paimio Hospital (former Paimio Sanatorium)

1.d Geographical coordinates to the nearest second

60° 27’ 54”
22° 44’ 9”

Fig. 3. Paimio’s location in Finland.

1.e Maps and plans, showing the boundaries of the nominated property and buffer zone

Maps showing the general location and boundaries of the nominated area are given in Fig. 4.

Fig. 4. The Paimio Hospital area and its surroundings. Marked on the map are the borders of the proposed World Heritage Area (red) and the two-stage demarcation of the buffer zone (blue).

1.f Area of nominated property and proposed buffer zone

Area of nominated property: 40 ha
Buffer zone 274 ha
Total 314 ha

The proposed demarcation of the World Heritage Area consists of the Paimio Hospital complex, including the water pumping plant and purification plant and their surroundings. The buffer zone has been indicated as a circle, the centre point of which is the main building, with a radius of 0.7-1 km. The intensity of the area lessens towards the perimeter. The basis for this solution is the experience of the landscape from the hospital's roof-top sun deck.

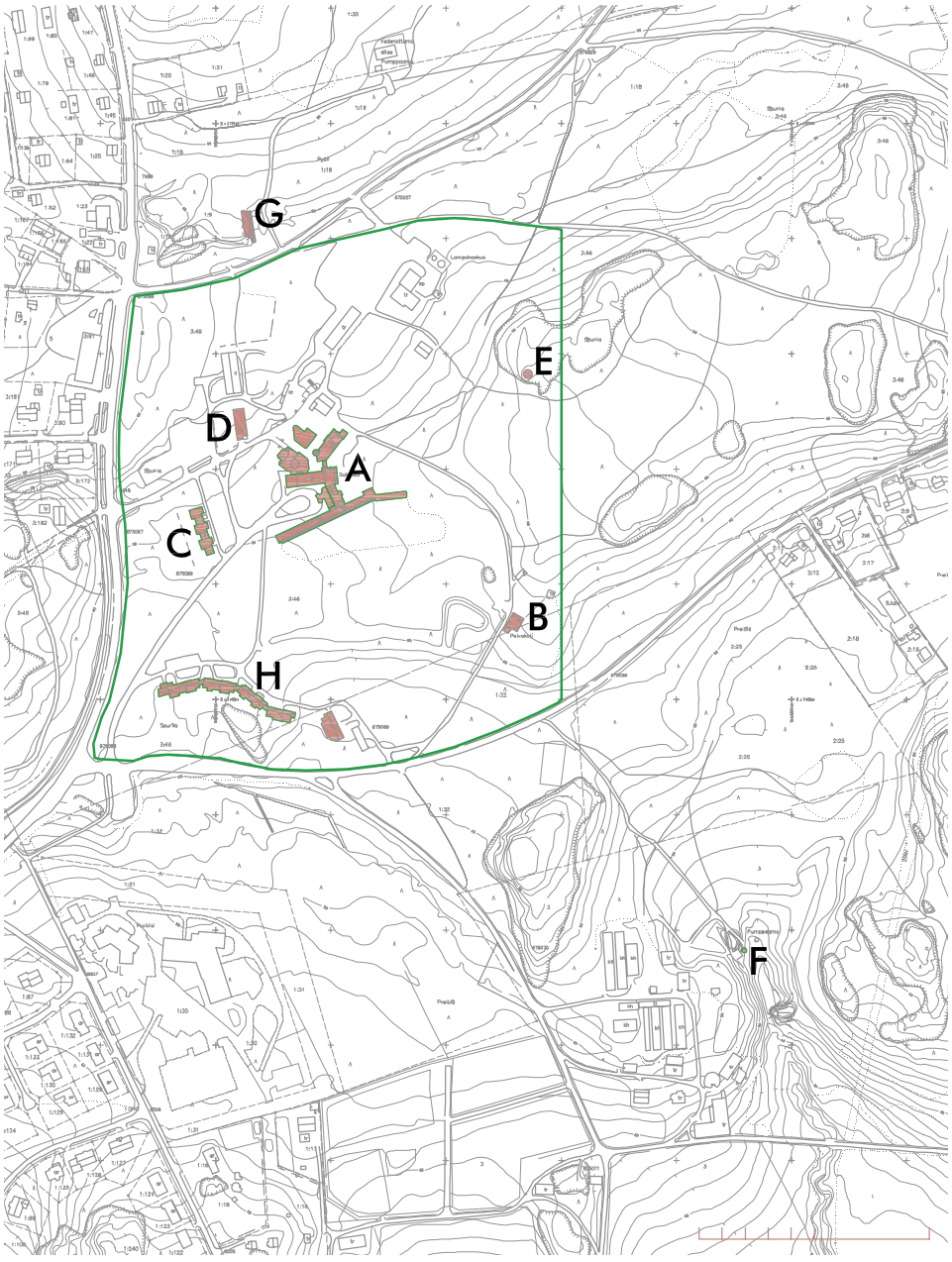


Fig. 5. The buildings of the hospital area and the boundary of the area protected by the Building Protection Act.
A Main building
B Head physician's house / kindergarten
C Junior physicians' row house
D Staff row house / offices
E Rose Cellar
F Water pumping station, Lemmenlampi area
G Biological waste water purification plant area
H Nurses' row house

Fig. 6. The dramatic end facade of the patients' sun balcony wing in the 1930s.

2. Description

2.a Description of Property

Landscape and the natural environment

Paimio Hospital (formerly Paimio Sanatorium) is situated in the town of Paimio, in the province of Western Finland (Varsinais-Suomi) in south-west Finland. The sanatorium was built in 1930-1933. An architectural competition for the design of the sanatorium was held in 1928-1929, which was won by architect Alvar Aalto. Nowadays the building complex operates as the Paimio Hospital, as part of the Turku University Central Hospital. The hospital area is situated three kilometres from the centre of Paimio.

The hospital is located on an area of sand moraine. This is a forest area consisting mainly of dry pine heath. Such a sandy, dry ground, where fir trees grow, is exceptionally well-suited as a site for a tuberculosis sanatorium. Also, the isolation of the area served the functional requirements of the sanatorium. Indeed, the location still offers a quiet hospital environment surrounded by natural beauty. As regards building development in the immediate vicinity of the hospital, to the west of the hospital area there is an area of more dense single-family housing; otherwise the hospital area is surrounded by a forest zone that includes some scattered dwellings and fields. The nearby Paimio river valley is a landscape area of national importance. The hospital is situated on a ground-water area.

The buildings and building groups as a totality

The hospital complex includes: the main sanatorium building, the chief physician's residence (nowadays a kindergarten), the junior physicians' row house, the staff housing (nowadays offices), the hospital morgue, the boiler and machine room and the garages, all completed in 1933; the nurses' row house (the so-called Kyykartano or Adder Manor) and garage built in the 1960s; and the heating plant built in the 1980s. Furthermore, the area includes various utility buildings of different ages. Outside the hospital area,

Fig. 7. The main building in the middle of the forest landscape.

Fig. 8. The concrete overhang of the rooftop sun deck.

though still part of the sanatorium complex, are a water pumping station and its dam structures, a tennis court and a biological waste water purification plant.

Due to its size and shape, the main building of the sanatorium dominates its surroundings. It is situated centrally on the highest part of the terrain on a north-south axis. Of the residential buildings, the junior physicians' row house and the staff housing are grouped freely in front of the hospital building. The head physician's residence is situated away from the other buildings, to the south-east of the main building. The original morgue and burial chapel, the so-called Rose Cellar, is situated furthest away, on the east side of the area. The heating plant, together with its storage buildings, is situated in the maintenance area immediately north of the main building. The water pumping station is situated south of the hospital area and the biological waste water treatment plant is correspondingly north of the area.

The south edge of the hospital area is delineated by the nurses' row house (the so-called Kyykartano or Adder Manor) built in the 1960s and a garage, both designed by Alvar Aalto's office.

The facades of the buildings have a white-render finish and form an impressive contrast to the forest scenery consisting of dark green fir trees. The buildings and the nature of the park and forest area surrounding them form a pairing important to the overall composition: the buildings are always seen as a part of the green landscape and the scenery they overlook is dominated by pine trees.

Fig. 9. The original main approach to the sanatorium.

Fig. 10. A view from the rooftop sun deck.

The immediate vicinity and the routes through the area

The immediate vicinity of the buildings consists of a maintained park-like area with lawns. Nevertheless, the overall appearance of the hospital area is typified by the forest – with blueberries and lingonberries growing freely among the trees. The hospital roof terrace (the former patient sun deck) has extensive views over a landscape dominated by forest.

The Alvar Aalto Road from the centre of Paimio forms the main approach to the hospital area. Two approach routes lead towards the main building: the original road curving towards the entrance forecourt and the maintenance route, which nowadays also leads to the parking area. The maintenance area is also accessed from the north, from Korvenalantie Road. The area is also traversed by light traffic routes.

Aalto also designed for the hospital grounds to the south of the patients' wing a serpentine path linking a series of water fountains, where patients could take walks. Some of the water fountains have been preserved as flowerbeds. The path network itself is presently overgrown. The path and pond basin system was a unique composition which both spatially and visually linked the patient sun balcony wing and the adjacent exterior space. Furthermore, it had an essential role in rehabilitating the patients.

The main building

The main building has been organised into five independent entities: the main entrance, the patients' rooms, the communal rooms, the operating theatre, and the kitchen/maintenance. Each activity has its own wing, with each oriented in a direction most favourable to the activity in question. Those rooms or groups of rooms that have similar requirements with regards to, for instance, natural light and views, have been placed together. This planning principle has produced a building which is naturally organised into parts, each with a different character and orientation, offering a dynamic whole with varying views outwards into the landscape. Despite its size, the building does not come across as crushingly large.

The building is dominated by a 7-storey patient wing, the tall and narrow west facade of which forms the accent point for the whole area. The glazed lift shaft of the narrow west facade is a reflection of the Aalto's admiration at that time for the machine age and modernity. The horizontal strip windows of the north-west façade facing the entrance forecourt reveal the side corridors behind them. Even though the external facades are white, due to the different colouring of the corridor walls on each storey of the north-west facade, when the internal lights are on at night time the windows form distinct different coloured strips of light. The orientation of the wing allows an abundance of morning sunlight to reach

Fig. 11. A view towards the main entrance: on the left is the wing containing the communal spaces, on the right the end facade of the patients' wing.

the patient's rooms, but only a little of the evening sun. The wing is also orientated so that car traffic would not disturb the patients' rooms. The patients' rooms overlook the nearby park and forest.

Extending as a continuation of the patient wing is a further wing consisting of patients' sun balconies, one for each floor. It was orientated directly southwards, so that the patients, lying on beds on the balconies, would receive as much sunlight as possible. In the beginning of the 1960s, following the changes in the treatment of tuberculosis patients, the balconies on each storey were converted into offices and treatment rooms. The roof-top sun terrace, which had a larger area for the healthier patients to recline, still overlooks the green sea of pine tree tops.

One of the patient rooms in the patient wing has been preserved as a museum room. Aalto designed the two-person room with the reclining patient in mind. The physiological and psychological well-being was efficiently promoted through the architecture. The lighting, ventilation, acoustics, waste management efficiency, and even the maintenance had been carefully studied by Aalto. According to him, creating perfect peace was the prerequisite for the healing process. The rooms were designed to be as quiet and comfortable as possible. Three of the walls in the rooms were 'hard' and one was 'soft' in order to even out the internal acoustics. The water running from the taps in the specially designed wash-basins hits the porcelain at an acute angle, thus causing no noticeable sound. Thus each of the two patients in the same room could wash themselves without disturbing the other. For hygiene reasons, each patient had his or her own wash-basin. The interior design of the patient room – preserved in the museum room – was an inseparable part of the architecture.

In the communal and administration wing there is presently a dining hall, a cafe (originally the reading room), a lecture hall and a prayer room (originally the patients' lounge). The original workrooms – where mainly women patients did needlework – have partially been divided up into smaller rooms. The lighting plays an important part also in the administration and communal wing: the windows facing south are larger than those facing north, so that sunlight can reach the furthest corners of the spaces. The communal spaces face different directions, and thus not all simultaneously in full sunlight, so that it is possible to choose either a light or shady spot to stay in. The panoramic views into the forest scenery are also important in the communal spaces.

The dining hall is partly two-storey high. Its tall glazed facade faces southwards and the entrance forecourt. The cafe is a suspended structure on the floor above the dining hall. Its internal windows tie it visually to the dining hall while also allowing views out to the landscape via the dining hall windows.

Fig. 12. A corridor of the patients' wing.

Fig. 13. The junior physicians' row house.

Fig. 14. The dining hall with its original furniture.

Fig. 15. The kitchen and maintenance wing. The building in the foreground originally housed a heating plant.

The two wings containing the patients' rooms and the communal spaces are linked together by an intermediary section in which is concentrated the vertical circulation, that is, the main staircase and lifts. The main entrance is also situated in this core of the building. The entrance has been accentuated on the exterior with an amoeba-shaped canopy. The free form is one of the design features which later had an important place in Aalto's architecture. The main staircase itself is an important architectural element, and which also offers views towards the forest through its large windows.

The maintenance and technical facilities are located in a separate wing north of the main building. The tall chimney is an important visual element. The surgery wing, built in the 1950s, is a low building located next to the communal wing.

Other buildings in the hospital complex

The other buildings in the hospital complex form, both functionally and visually, an essential part of the overall free form composition. The residential buildings are mainly two storeys high. The junior physicians' row house to the west of the main entrance has an important role in demarcating the arrival area. The 1960s residential buildings on the south side of the main building have

Fig. 16. The water pumping station.

Fig. 17. Dining hall lamps and radiant heaters in the ceiling.

Fig. 18. A light small chair.

been pulled back as far as possible from it, so that they would not disturb the view of the forest.

The original morgue/funeral chapel and waste water purification plant are the only original buildings that presently are not in active use.

The technical systems and their integration

Important in the design of the sanatorium was the perception of the whole technical process and its placement in different parts of the sanatorium complex, as well as its integration into the main building. Incorporating a water pumping station in the complex ensured the sanatorium's water needs. In turn, the biological waste water purification plant treated the sewage water. All the buildings that originally served technical functions still exist today.

Striving for hygiene and the peace of the patients also led to a solution where the pipes to the patients' rooms were placed in a shaft accessible for maintenance from the corridor. The radiant heating panels in the patients' rooms were optimally placed in the ceiling.

The most remarkable feature of the concrete structural frame of the main building is the use of cantilevers, in both the patient sun terrace wing and the corridor section of the patient wing. Particularly the daringness of the balcony solution received critical attention already when under construction. Paimio was used as an example for the potential of such structures: for instance, photographs of the building during construction were published already at the end of 1932 in the British journal *The Architectural Review*.

The furniture and standardisation

At the end of the 1920s answers to the social, economic and technical issues of building were sought through the use of standards taken from industrial production. The search for new materials and working methods was essential for Aalto at that time. He also rapidly became interested in standardisation, and during the period 1929-1932 carried out a lot of designs intended for standardisation. The varied assortment of standardised designs encompassed windows, doors, chairs, tables, cupboards, lamps and fixed furniture both for indoors and outdoors. Several of the standard parts and furniture were developed specifically for Paimio Sanatorium. Hygiene and user comfort were emphasised as the basis for design. The furniture was quickly taken into commercial production and was presented in London already in 1933 at the exhibition 'Finnish Laminated Furniture'. The furniture was marketed under the slogans of value for money and comfort.

The best-known of the Paimio Sanatorium chairs, the so-called Paimio Chair from 1931, is still today produced by the Artek company. The angle of the back of the chair,

Fig. 19. The Paimio Chair, laminated birch frame and lacquered plywood seat.

Fig. 20. Armchair version made from laminated birch frame and lacquered plywood seat.

built from bent plywood, was designed to optimise the best position for the sitting tuberculosis patient to breathe. The plywood surface is also easy to clean.

Also, most of the standardised lamps that Aalto designed were originally made for the Paimio Sanatorium. The lamps were even designed especially with the sanatorium conditions in mind. The idea behind several of the lamps, such as those in the patients' rooms and the dining hall, was that they utilised indirect light in order to minimize glare.

Some of original furniture and lamps still today remain in use in the hospital. Also the exterior lamps are original.

Colours

The use of colour in the Paimio Sanatorium was planned carefully. Research had shown that the comfort of both patients and staff could be increased by using warm and calm tones. Through the choice of colours, Aalto wanted to create a comfortable and humane atmosphere in the hospital. Even strong colours were used in the communal spaces. Yellow rubber flooring in the corridors and stairwell of the central wing adds to the feeling of brightness and sunlight. The exterior of the building is dominated mainly by white and black, but with colour accents in red for the balcony rails and yellow for the roof terrace. In the interior the main colours are white, black, yellow and turquoise (the so-called Paimio Blue). The patients' rooms were painted a neutral light colour and the ceilings grey-green. The corridor walls on each storey of the patient wing have a different colour.

2.b History and Development

Tuberculosis as a widespread disease

Lung tuberculosis spread rapidly in Europe in the latter half of the 19th century and by the beginning of the 20th century was a widespread disease both in Finland and elsewhere in Europe. Along with industrialisation and urbanisation, social problems, such as a lack of sanitation, crowded living conditions and an unbalanced diet, increased the spread of tuberculosis. Mortality from the disease also increased due to the poor standard of health care and a lack of knowledge of how the disease was spread. The disease particularly affected the working population, and thus in addition to the individual suffering meant a great burden for the national economy. Even though by the 1920s it was possible to prevent contagion by vaccination, it took a lot of resources to care for those who had already contracted the disease. Tuberculosis was a very widespread disease in Finland until the 1960s.

The combating of tuberculosis began systematically in Finland in the beginning of the 20th century, with both the education of the populace to prevent the spread of the disease and the building of tuberculosis sanatoriums. The first public sanatorium to be founded was the Högsand Sanatorium for children with bone, joint and glandular tuberculosis, founded in 1901. The Nummela and Takaharju sanatoriums, built on the initiative of physicians' associations, each with over 100 places for patients, were opened in 1903. Most of the sanatoriums at the beginning of the century were small, with less than 50 patients. Institutions for the treatment of the disease were founded by individual or groups of municipalities and tuberculosis organisations. The first private sanatorium, the Halila Sanatorium in Uusikirkko, founded in 1889, was extended in 1915 to become a public hospital.

From the 1920s onwards, as a result of the development of the BCG vaccination, the increase in the level of healthcare, rising living standards, and relative immunity, the number of tuberculosis mortalities decreased. The French scientists Calmette and Guerin had in 1921 managed to isolate a strain of the bacteria, from which a vaccination was developed, which then was used as a protection against the disease. But even though it was then possible to prevent the contagion of the disease, the treatment of those who had already contracted tuberculosis required a lot of resources. Despite the lowered mortality, the number of those afflicted by tuberculosis remained high in the 1920s and 1930s.

The state's role in combating tuberculosis became pronounced in 1922 with the founding of a tuberculosis commission. In practice, the health work was organised such that tuberculosis welfare offices were created in the cities while the countryside was divided up into tuberculosis welfare districts. In 1929 the Finnish parliament passed a law that allowed state aid to be given for the founding of tuberculosis hospitals or sanatoriums. This legislation was important in the setting up of tuberculosis sanatoriums.

In addition to the work intended to prevent the spread of tuberculosis, further sanatoriums, mainly small ones, were built during the 1920s. The first large public sanatorium, which had both paying and non-paying patients, was opened in 1925 in Harjavalta. Helsinki City built its own tuberculosis hospital in 1929.

The busy years of sanatorium building

The height of sanatorium building in Finland was between 1930 and 1933, when eight large public sanatoriums were founded, each with places for at least 150 patients. The Paimio Tuberculosis Sanatorium in the province of Western Finland (Varsinais-Suomi) was part of this group. With the founding of the large public sanatoriums in the beginning of the 1930s, the number of patient places grew by as many as 2500. In 1933 there were as many as 3700 patient places in the hospitals and sanatoriums for patients suffering from lung tuberculosis and 500 places for patients with bone and joint tuberculosis.

The myth about tuberculosis being the illness of damp, unhygienic places affected the choice in the 1920s and 1930s of locations for the sanatoriums. It was felt particularly important that the ground soil of the site was dry, containing clean gravel or sand through which rainwater would drain. Another central requirement was that the sanatoriums had to be built on high ground amidst fir trees. It was thought that fresh air and in particularly ozone cured tuberculosis. Furthermore, the sanatoriums were built far from built-up areas because it was known that tuberculosis was a contagious disease. They also required large areas of land, which were hard to come by in the cities.

The patients stayed in the sanatorium for long periods and even formed quite close social groups. The treatment of tuberculosis was for a long time based on raising the

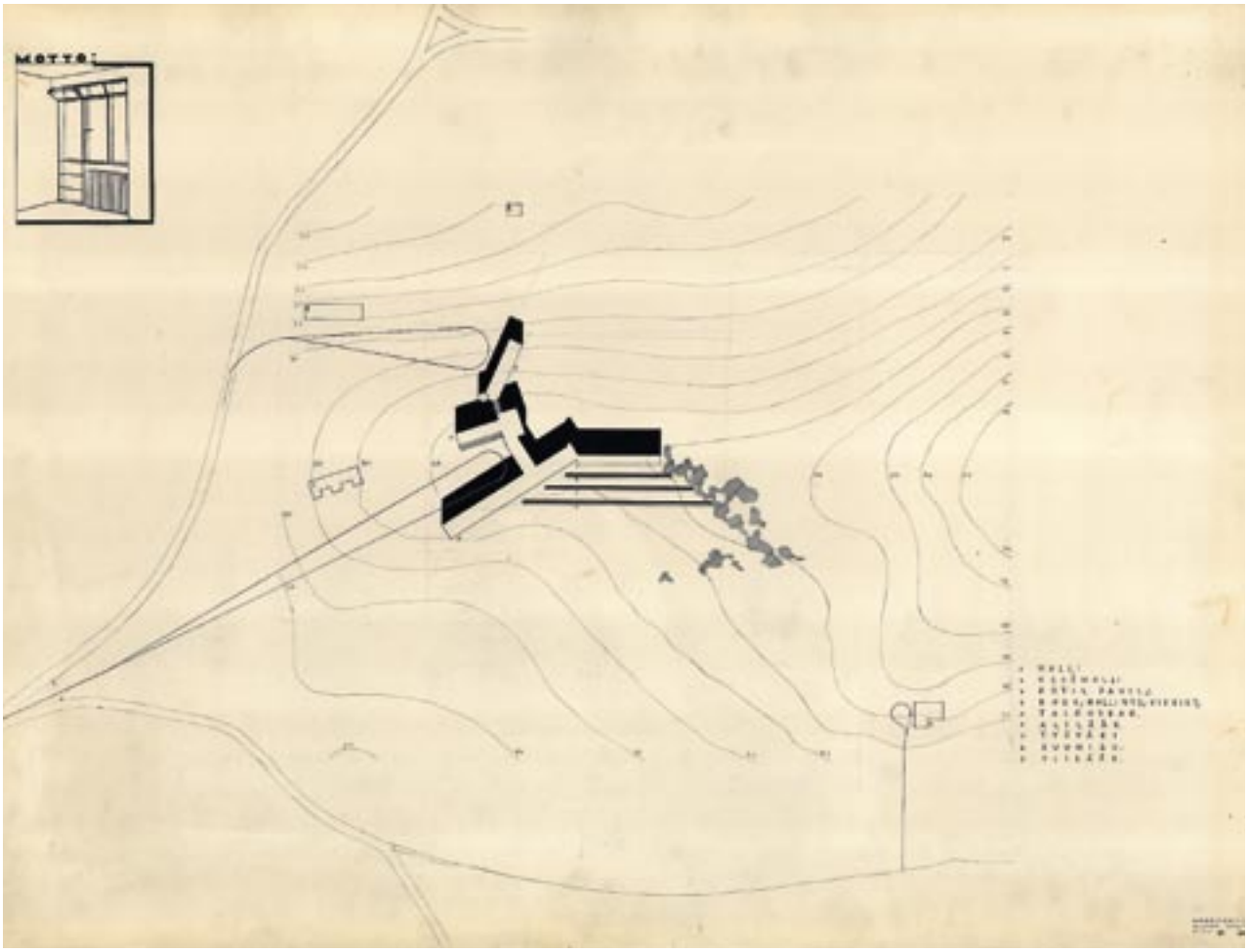


Fig. 21. The site plan in the competition stage.

general condition of the patient. Medication was available only to reduce coughing, lower fever and increase the appetite. One common treatment method was to let patients lie in the open-air for several hours each day. The rehabilitation of the patients also included light daily work and even professional education.

After the Second World War the first medication that had an effect on the tuberculosis bacteria was developed. The widespread disease began to recede, mortality decreased and duration of treatment shortened. The faster cure of the disease also meant a shortening of the period of contagion and thus fewer new cases.

The location of the Paimio Sanatorium and the architectural competition

Work for the prevention of tuberculosis began in Varsinais-Suomi at the end of the 1920s because the number of cases was very high in that particular area of the country. In 1928 the 48 municipalities in the region decided to found a joint tuberculosis sanatorium. That same year the Paimio municipality offered the forest lands of the Spurila manor estate as a site for the sanatorium. According to the experts, it was a suitable site because of its sandy soil and pine forests. It was easy to find a large, generally level, south-facing site for the sanatorium. Placing the building on a north-south axis was important because the patient balconies of tuberculosis sanatoriums, where the patients would lay each day, were, when possible, always placed facing southwards.

The choice of location was also influenced by the existing nearby railway station. Additionally, a saw mill and a brick factory were located fairly nearby and it was thus easy to acquire the building materials. Another factor favouring Paimio was that the region was an area of historical-cultural importance where, it was argued, "both the patients and sanatorium staff would surely feel comfortable". The Paimio municipality donated an area of 40 hectares for the use of the sanatorium. Furthermore, two farms, with a total area of 270 hectares, were bought for the use of the sanatorium.

The appointed building board looked after the practical arrangements of the sanatorium project. It acquainted itself, among other things, with three tuberculosis sanatoriums: Takaharju Sanatorium (nowadays Punkaharju Rehabilitation Centre), that had been in operation already for 25 years; Harjavalta Sanatorium (nowadays Satalinna Hospital), that had been in operation for a few years; and

Helsinki City Tuberculosis Sanatorium (nowadays Laakso Hospital), which was a combined general hospital and sanatorium. The Varsinais-Suomi Tuberculosis Sanatorium at Paimio was also to be a public sanatorium, so the knowledge and experience gleaned from the other public sanatoriums was utilised. The building board was interested in the functional aspects of the building and in particular solutions regarding hygiene.

An architectural competition was held for the Varsinais-Suomi Tuberculosis Sanatorium in Paimio at the end of 1928 and the results were announced in the beginning of 1929. Thirteen competition proposals were received. The decision to use an open architectural competition is indicative of the importance given to the design task. New types of solutions were sought for, for an activity that was highly specialized and where practical and technical issues were emphasized.

The competition programme entailed, apart from the actual sanatorium building, also residences for the chief physician, the junior physicians and the housekeeper, a utility building with a laundry, bakery and sauna, as well as general staff housing. The sanatorium facilities included the patient rooms, the reception and workrooms as well as a library, reading room, common rooms and dining rooms for the patients. Additionally, there was to be a kitchen section, a bath section, the nurses' rooms and an isolated epidemic ward and disinfection rooms. Specific requirements were specified for the volume of the patient rooms: 25 cubic metres per patient. With this, it was argued, the patients' needs for clean air would be secured. In the competition programme, the height of the building was set at a maximum of four storeys plus a basement. There was to be a total of 184 patient places.

The competition was won by architect Alvar Aalto with a proposal prepared, as is the norm in architectural competitions in Finland, with a pseudonym, "piirretty ikkuna" [Drawn Window]. The overall floor plan of the sanatorium proposal was based on a fan shape. The functions were subdivided into separate wings, which were connected by a section containing the vertical circulation connections. Each of the wings faced the direction that was most favourable for the function in question: the most important being the patients' sun balconies facing directly southwards and the patients' rooms facing the morning sun. In Aalto's proposal a terraced "summer hall", demarcated by walls and vegetation, was indicated on the ground level in the immediate vicinity of the building. The residential buildings were placed freely in the terrain close to the main building. The drawn L-shaped window that was used as the competition proposal pseudonym encapsulated the central goals of a sanatorium building: light, fresh air and ventilation.

The Paimio competition was important among other architectural competitions taking place in Finland at that time, because the prize-winning proposals were the first

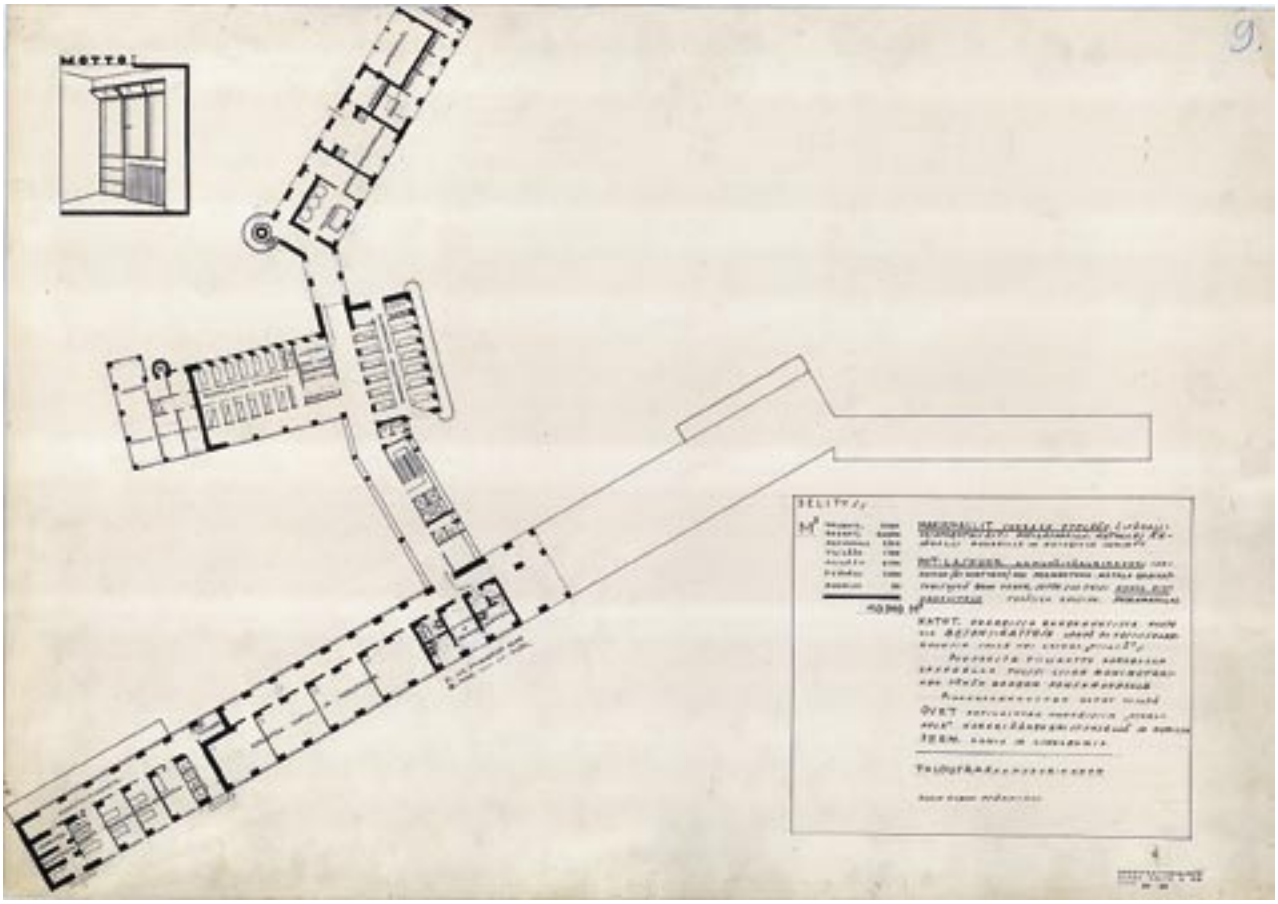


Fig. 22. The floor plan in the competition stage.

Fig. 23. The concrete structure of the corridor of the patients' wing.

to employ, at least partially, the principles of functionalism. The reasons for this were the positive approach towards the new architecture by architects Jussi Paatela and Väinö Vähäkallio, who were members of the competition jury, as well as the nature of the project itself.

Between 1927 and 1931 Alvar Aalto also participated in three other architectural competitions for sanatoriums. These were two invited competitions in Finland, for the Kinkomaa Tuberculosis Sanatorium (Keski-Suomi) in 1927 and the Kälviä Sanatorium (Keski-Pohjanmaa) in 1929, as well as the open competition for Zagreb University Central Hospital in Yugoslavia held in 1930-1931. Aalto's entries did not win any of these competitions. There are certain design solutions in his competition proposal for Kinkomaa Sanatorium of 1927 that he further refined in the Paimio competition proposal: for instance, organising the functions into separate wings and, in particular, the cantilevered sun balconies where patients would lie during the day. The form language of the proposal, however, was classicistic. The building in Aalto's entry for the Kälviä Sanatorium competition was more compact than the Paimio sanatorium: among its distinct features was a library lit by a system of diagonal skylights. In the Zagreb Hospital competition proposal, the tuberculosis ward was part of a more extensive series of wards. In his proposal Aalto used a right-angled version of the Paimio scheme.

It was during these competition years that Aalto's transition from classicism to functionalism occurred. For that reason, Paimio is a central work of Aalto's development; the idealisation of the technology of modernism and its expression in the building, as well as the typical characteristics of functionalism were clearly evident – albeit synthetically, and through creative interpretation.

The construction of Paimio Sanatorium

The planning of the Paimio Sanatorium continued immediately after the competition results were announced. In June 1929 the building board and Aalto signed a planning contract. He was given the task of preparing all the drawings, including those for the interior design, along with the work specification and cost calculations, as well as the complete supervision of the building work. Aalto was indeed diligently present on the building site during construction. Thus the agreement allowed for building Paimio as a *Gesamtkunstwerk*.

Medical expertise was utilised in the planning of the sanatorium. The building board included a physician, and statements from experts were obtained in the preparation of the drawings. This was done in order to secure enough credibility for the requirements of medical opinion. Physicians did indeed suggest changes to the competition drawings, for medical as well as practical and economic

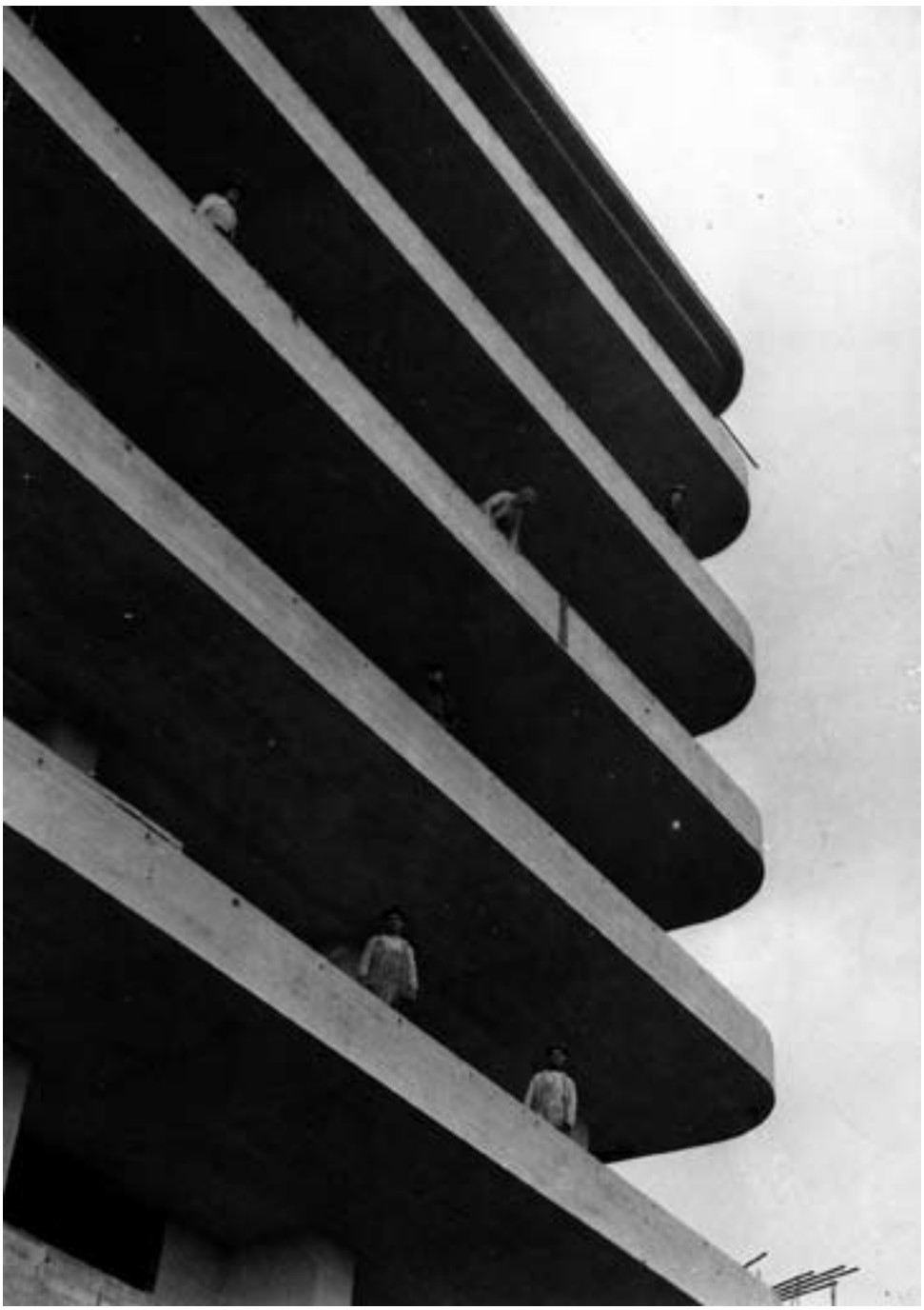


Fig. 24. Building workers on the patients' sun balconies.

reasons. Certain changes also influenced the aesthetic appearance of the building, the most important of these being the alteration of the L-shaped window units on the south façade to rectangular windows, placing the 'panoramic' lift on the west façade and adding windows to the north façade of the dining hall. The originally four-storey ward wing was raised by two storeys, because the number of patient places was increased after the city of Turku joined the project.

Apart from Alvar Aalto (1898–1976) himself, also architects Aino Marsio-Aalto (1894–1949), Erling Bjertnäs, Lauri Sipilä, Harald Wildhagen and Lauri Wiklund, all working in Aalto's office, participated in the planning of the Varsinais-Suomi tuberculosis sanatorium. Artist Eino Kauria devised the colour scheme. Engineer Emil Hartela made the structural calculations and also acted as the main building construction supervisor. Hartela's role was important in the design of the bearing structures of the main building already from the competition stage.

The actual construction work began on 1st April 1930. The aim was for the construction work to take place during the period 1930-1932. The first stage entailed the construction of the foundations of the main building and its concrete frame as well as the chimneys. Construction of the concrete frame entailed close cooperation between the architectural and structural planning. The brickwork and rendering was followed by the interior decoration and finishes, which were carried out in 1932-1933. The

Fig. 25. Alvar Aalto at the sanatorium building site.

sanatorium was inaugurated on 18th June 1933, though the first patients had been admitted already in February that same year.

Constructed during the same building stage as the main building were the chief physician's residence, the junior physicians' row house, the staff housing, the hospital morgue, the water pumping station and the sewage water purification plant. From the very beginning attention was paid to the sanatorium surroundings. The aim was to protect as much the young forest growing on the site as possible. A walking route was set out in the grounds of the sanatorium, south of the patient wing. Fountains were placed at the turning points of the path. Additionally, larch tree saplings and decorative plants were planted in the courtyard. Kitchen gardens were created in connection with the residential buildings. The large areas of land belonging to the sanatorium were farmed in order to ensure self-reliance.

The character of the main building

In the competition proposal each wing was oriented in the direction optimally required by its function. At the same time, rooms with the same requirements were grouped together in their own wings. Separating functions was also favourable from the point of view of seclusion. The aim of getting natural light into the rooms from a favourable direction was also achieved. A single building, on the other hand, offered other advantages compared to a design solution where each function has its own completely separate building: in the former, efficiency and internal connections were improved.

The so-called A Wing of the main building contained two-person patient rooms along a side corridor on six floors. At the end of each floor was a small flat for the ward nurse. Immediately linked to the wing was a further wing facing directly southwards comprised of sun

Fig. 26. View westwards from the roof of the main building in the 1930s. The junior physicians' row house is seen in the sanatorium grounds on the right.

balconies for each floor, large enough for 24 patients lying down on beds. These were intended for the more ill and psychologically vulnerable patients. On the very top floor was a large sun deck for 120 patients. The decks thus served individual needs.

The communal spaces were situated in the four-storey B Wing: the dining hall, common rooms, library, reading rooms and work rooms. On the ground floor of B Wing were the physician's reception rooms and the treatment wards. The main entrance was placed in a section that linked together the A and B wings, in which the main vertical circulation is concentrated. The C Wing contained the kitchen and auxiliary spaces, the laundry and bakery and, on the top floor, rooms for the kitchen and maintenance staff. The one-storey D Wing contained the heating plant.

The communal rooms were an important part of the patients' lives. Here they spent their time and took part in common activities. The long duration spent in the sanatorium required these kinds of meeting and social spaces. They were – along with the sun decks – important nodes of the social life.

At the time of the construction of the sanatorium, new concrete technology was being applied in building. The most innovative and interesting feature of the reinforced concrete frame was the cantilevered sun decks. The seven-storey sun balcony wing supported upon a row of pillars with wide bases as well as the tensioning rods of the rear wall were particularly daring structurally. For the exterior walls brick was laid in front of the reinforced concrete, and an insulating layer was placed on the inside surface of the concrete.

The construction system and the technical systems were tightly interlinked. Along the centre line of the frame of the patient wing, at the side of each column, is a system of horizontal and vertical ducts. All technical installations were placed in the duct shafts. Thus the repair and maintenance work could be carried out without having to enter the patient rooms.

These innovative solutions were presented in the contemporary journals even before the sanatorium had actually been completed.

The most recurring unit of the building, the patient room, was the central point of the design, and thus particular attention was paid to its design in terms of the lighting, heating, ventilation and acoustics.

Hygiene and the lighting conditions were a particular emphasis in all parts of the building, both in the design solutions and in the details. Steel windows represented the most modern fabrication technique.

The facade composition of the flat-roofed white-rendered building was seen to express the functions of the internal spaces and their different characteristics.

The other buildings in the hospital grounds and the surroundings

The residential buildings formed part of the overall layout. The floor-plan solutions were hierarchically organised. The chief physician's residence was a private house with the character of a villa. The junior physicians' and staff houses were located in the vicinity of the main building. The three residences of the junior physicians' row house contained a two-storey residential part and an intermediary section that functioned as a terrace.

The staff housing consisted of both innovative flexible apartments, with a room sub-division that could be altered, and minimal accommodation of the dormitory type. All the residential buildings were functionalist in terms of their form and facade composition, and were finished with a white render.

Other buildings in the hospital area were placed further away from the main building. The morgue, the so-called Rose Cellar, was set into the terrain by partially digging it into the ground. The name stemmed from the rose bushes planted on top of it. The vaulted space also functioned as a chapel. The central roof light provided natural light into the domed space. The pumping station with its dam structures and the waste water purification plant were built in concrete.

The network of paths, the most important of which was the serpentine path with water fountains, served the rehabilitation of the patients and created a pleasant atmosphere in the grounds. The surroundings and scenery of the sanatorium were dominated, however, by the forest in its natural state. A kitchen garden with greenhouses and a farm also formed an integral part of the sanatorium complex; these guaranteed self-sufficiency in the most important food stuffs.

Contemporary reactions

The sanatorium received a lot of attention already during the construction stage, for instance in articles in the Nordic architectural journals. Efraim Lundmark wrote in 1932: "What has been seen so far of Aalto's sanatorium complex seems unique for a Nordic country, and I dare say that with Aalto a new era has begun in Finnish architecture". Photographs of the building stage were also published in the British journal *The Architectural Review* at the end of 1932, in which Paimio was shown as an example of the potential of concrete structures.

When the sanatorium was completed it was presented in several international architectural journals. *The Architectural Review* presented an extensive review of the sanatorium in its September 1933 issue. The article ends with the statement: "Even if Paimio were not the most revolutionary hospital building erected within the last decade, it would still be of immense significance on account of the structural methods adopted, and the multiplicity of new ideas, details and fitments it incorporates."

The British journal *The Architects' Journal* wrote in 1933 in connection with an exhibition of Aalto furniture: "At thirty-five Aalto has taken modern architecture beyond the good and evil of that German fetish, functionalism. He has infused its bare bones with a vital human spark and re-asserted the dignity of the human scale without the least concession to adventitious ornament. There are important lessons for us learn from Aalto's life and work. Architects often have bigger chances in small countries than in larger ones. Paimio, for instance, is both psychologically and structurally far ahead of anything the medical profession has yet demanded for either sanatoriums in general or tuberculosis sanatoriums in particular." It also stated that Paimio Sanatorium and the Turun Sanomat newspaper offices in Turku had brought Aalto fame and for good reason. The same journal stated in 1934 that of the achievements of the previous year (1933) Paimio Sanatorium was "accepted by many as the outstanding foreign building of the year, a self-contained community in an isolated position". It also added: "A reinforced concrete framework is used throughout the building, extensive use being made of the possibilities of cantilever construction."

The Japanese journal *Kokusai Kenchiku* presented in 1934 a selection of European sanatoriums. Paimio Sanatorium received the largest coverage, and was presented in even the smallest detail.

Later changes

Paimio Sanatorium functioned as a tuberculosis sanatorium until 1971, when it became a general hospital. During its time as a sanatorium changes in use and other maintenance work linked with the function of the hospital were carried out in the various buildings within the complex. Aalto's office was responsible for the planning of the repairs and alterations. A major change occurred when lung removal operations were initiated in Paimio in 1955. For this purpose a new operating theatre wing was built north of the main building in 1956-58. At the same time, alterations were also carried out in other parts of the main building.

As a result of treatment and public awareness, the number of tuberculosis sufferers decreased, though only clearly from the middle of the 1960s onwards. During the 1960s Paimio Sanatorium was converted into a hospital for the treatment of all kinds of pulmonary diseases. The activities were extended in the 1970s to include the treatment of rheumatic diseases. In 1963-64, after the open sun decks were no longer required, and space was needed for research, treatment and office spaces, the open decks were enclosed to become rooms.

During the 1960s the hospital complex was complemented by a nurses' row house ("Kyykartano" or Adder Manor), and a garage in place of the sauna, both designed

by Aalto. The Mäntylä dormitory building, designed by architect Lauri Sipilä, was completed in 1949.

The final transformation from sanatorium to general hospital in 1971 entailed a change in treatments and consequently a change in the use of the spaces. The patient wards of the main building were renovated in stages in 1974-75 and 1977-79. The original appearance of the patient rooms changed, though the room division and shape remained the same. Doors were widened due to the needs for patient transportation. The corridors were preserved, though ventilation ducts with suspended ceilings were added. One patient room, however, was preserved as a museum room with all the original furniture and fittings. The flats above the kitchen were turned into offices and the kitchen upgraded.

The use of some of the central communal spaces also changed during the 1970s and 1980s: for instance, the dining hall became a staff canteen. The library in B Wing became a patient cafeteria and the common room became a lecture hall. The shape of the spaces, however, remained the same. During his lifetime, Aalto participated closely in the planning of the alterations, and after his death his office continued with the work.

A new heating plant, placed clearly apart from the main building, was built in 1980-81. As regards the other buildings, the most extensive changes occurred in the 1980s with the alteration of the staff residential building to become offices and changing the chief physician's residence into a kindergarten.

The major part of the hospital land was sold in 1983 to the Finnish Forest Research Institute (METLA) and the Paimio Municipality. In 1987 the hospital came under the control of the Turku University Central Hospital. Aalto's office was responsible for carrying out the planning of all alterations until the 1990s. The National Board of Antiquities has been following and purposefully influencing the contents of the planning of the alterations and repairs to Paimio sanatorium since the1970s.

In 1993 Paimio Sanatorium was protected by building legislation. The grounds for the decision were that "Paimio Sanatorium, together with the residential and auxiliary buildings, is a national building monument with a cultural-historical importance from the point of view of architectural history, architecture, building technology and its uniqueness". The protection covers the exterior of the buildings, the original interiors, the building structures, the building parts and the remaining fixed furniture and fittings, including the original lamps and details. The protection stipulations also state that the protected buildings and their surroundings must be maintained and conserved in accordance with their architectural and cultural-historical value.

Since the decision to protect the buildings by legislation, all the interventions have been carried out under the supervision of a person appointed by the National Board of Antiquities. Some room changes were carried out in the main building in the 1990s and 2000s: patient rooms have been converted into research rooms and isolation rooms. Two new ventilation machine rooms have been built in the main building, one in the operating theatre in 1999 and the other on the top floor of the sun deck wing in 2002.

Fig. 27. A view from the central wing towards the chimney of the maintenance wing.

3. Justification for Inscription

3.a Criteria under which the inscription is proposed

Criterion (i): *to represent a masterpiece of human creative genius;*
Central to all aspects of the design of the Paimio Sanatorium was the patients, their needs and well-being. From this starting point Aalto created a functional synthesis, where the physiological, psychological and social factors were linked with prevalent treatment practices and the latest technical solutions. All levels of the building, from the smallest detail all the way to how the building was part of the landscape and oriented in a particular direction, aimed to serve the needs of the patients, thus aiding their recovery.

Aalto's innovative experimentation with new technical solutions, as well as the development of interior design and furniture (in particular wood furniture) is evident in Paimio in various ways. The result was a *Gesamtkunstwerk*, in which the ideal of Modernist architecture – to care for man as if the building itself were an instrument – was realised in a unique way. Unlike the simple streamlining of the early Functionalism, Aalto emphasised the importance of the warmth of human touch alongside the requirements of hygiene. Evident already in this early work is a humanism later considered typical for Aalto, and which has enriched the field of architecture.

Criterion (ii): *to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture;*
The Paimio Sanatorium received widespread international recognition already when it was still under construction. The sanatorium greatly influenced both the breakthrough and development of Functionalism in Finland, as well as in the other Nordic countries.

Criterion (iv): *to be an outstanding example of a type of building and architectural ensemble which illustrates a significant stage in human history;*
The Paimio Sanatorium is one of the pure examples of Functionalism, responding to the requirements of standardisation and hygiene. It is one of those buildings that logically manifests in a multi-faceted way the possibilities created by the new architecture. In Paimio the starting points and features seen as important in Functionalism, as well as Aalto's artistic intuition, come together.

Fig. 28. The main foyer of the hospital.

3.b Proposed Statement of Outstanding Universal Value

Fig. 29. The patients' wing is terminated by a row of balconies.

In the Paimio Hospital two large subject matters are combined in a fecund way: the creation of a new type of sanatorium and the breakthrough of modernist architecture. The building responded in its time to the challenge of medical science like an instrument. It offered light, air and ventilation, thus implementing the ideology of Functionalism; namely, architecture in the service of society, and improving social disadvantages. Paimio Hospital is the most important building in the breakthrough of Functionalism that occurred in Finland at the turn of the 1920s and 1930s. It is also a central example of the trait of 20th century Finnish architecture to purposefully respond to the needs of the welfare state. The new architecture was well received on a broad front, and Alvar Aalto's architecture was at the forefront of this new wave.

The central ideals and principles of Aalto's whole production come together in the Paimio Hospital, the most important being humanism and comprehensiveness of execution. The starting point of the design, extending from the totality to the smallest detail, was the (tuberculosis) patient who had to spend a long period in the hospital. The technical innovations are linked with the clearly organised function, and with the starting point of the experience of the patient, the individual. In the Paimio Sanatorium Aalto developed and implemented the design principles that followed the goals of international Functionalism, yet with an innovative and comprehensive interpretation of those goals. The personal approach to the importance in architecture of both humanism and a rootedness in local culture complemented these principles.

The Paimio Hospital received a lot of international attention and was widely published in foreign architectural journals at the time of its construction. The building brought Aalto international fame. With the Paimio Hospital Aalto's humane way of thinking enriched the architectural field of the modern movement.

One of the main principles of modern building design at the end of the 1920s was to organise the building on the basis of the differentiated functions. In hospital buildings this was a natural way to organise various demands and spaces serving different needs. The floor plan of the Paimio Sanatorium came about as a result of the aim to place different functions in the same building in an organised fashion and to orient them optimally in different directions. In a single building complex it was possible to satisfy to an adequate degree the special needs of tuberculosis patients and promote communality within the hospital. There was an active patient organisation amongst Paimio patients, which maintained, for instance, a library and organised different recreational activities.

The hospital building rising above the pine forest, the accompanying residential and technical buildings, as well as the areas serving leisure-time activities, express in an impressive way the harmony between nature and building. Both nature and building contributed to the fight against tuberculosis.

The starting point in the design of the Paimio Sanatorium was the individual, the person suffering from tuberculosis, whose privacy and comfort were of central importance. The building was to serve the weakest person who spent the largest part of his or her long stay in the hospital in a room, most often lying down in bed (i.e. a "horizontal person"). The architecture of the building strived effectively to promote the physiological and psychological well-being of the patient. Creating perfect peace was, according to Aalto, the prerequisite for healing. These aims are still evident today in the Paimio Hospital.

Fig. 30. The main entrance courtyard of the hospital.

What was particularly innovative in the design of the sanatorium was the perception of the function and entire technical process as a whole. The well-being of the patient started from acquiring clean water and ended in the hospital's own separate purification plant. Striving for hygiene and guaranteeing the peace of the patients also led to the design of a special shaft network and maintenance system. As regards building technology, the use of concrete as the main material of the building frame enabled the daring cantilevered solutions both in the sun deck balcony wing and the corridor of the patient wing. Particularly the daring balcony solution received much attention from the architectural profession.

Standardisation was also a part of the principles of the design of the building. The sanatorium was the birthplace of numerous pieces of furniture and lamps designed by Aalto and based on standardization. Also the doors and metal windows were designed according to standardization principles. Properties attainable through good de-

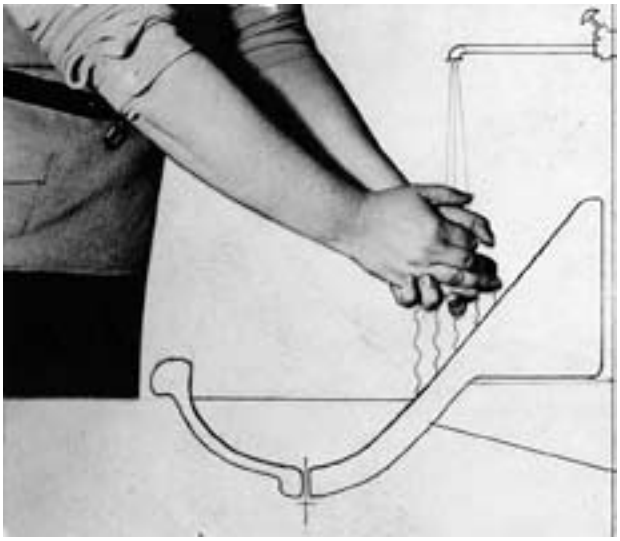


Fig. 31. An illustration showing the principle of the 'non-splash' washbasin in the patients' room.

Fig. 32. The present day museum room with its original furniture.

Fig. 33. The 'non-splash' washbasins and spittoons.

Fig. 34. A standard wardrobe in the patients' room.

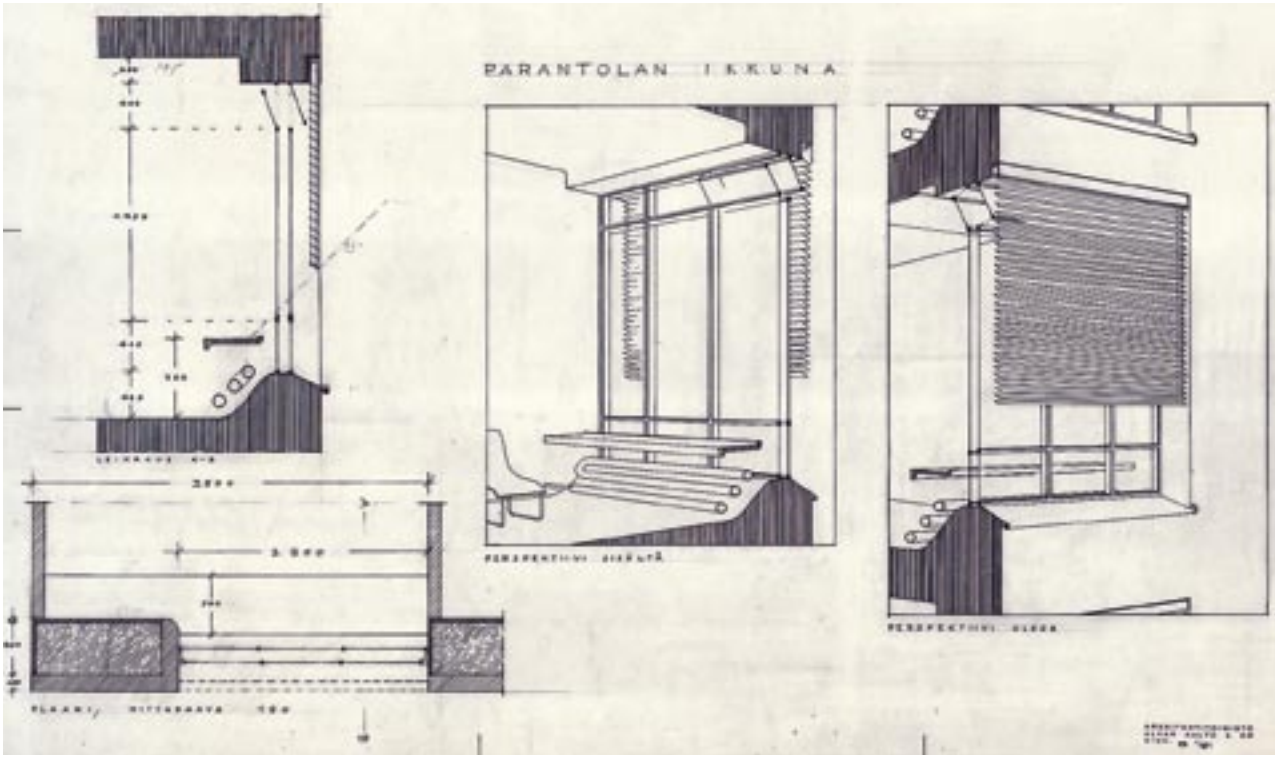


Fig. 35. A drawing showing the design principles of the patients' room window.

sign were hygiene, economy and comfort. Aalto also saw standardization as an opportunity to solve these issues efficiently. Standardization for him did not mean mechanical replication but rather always included the possibility for variation.

The innovative use of wood is evident in the furniture design for the building. They were to be light, flexible and easy to clean. According to Aalto, steel-tube furniture, which was part of cutting-edge modern architecture and the development of furniture design in the 1920s and 1930s, felt too cold and hard. Instead wooden furniture was pleasant in "the long and painful sanatorium life". The success of the furniture is shown by the fact that many of the pieces are still in production today and have been regarded as international classics already since the 1930s.

Colour played a particularly important part in the interiors in creating a cosy and humane atmosphere and where there was a need to emphasize the character of the public spaces.

In the Paimio Sanatorium a harmonic and functioning whole was born from the combination of modernist design principles and the humanism typical for Aalto. The nature of the design task and the ideology of functionalism emphasized the rational approach. The all-encompassing goal of Aalto was "the little man, in this case even an unhappy and sick person, to the extent that it is possible to realise through architectural means."

The synthesis typical of Paimio Hospital – in which the totality of the environment formed by nature and building, the functionality of the "medical instrument", the innovativeness of the building and structural technology, the design of the details and the appropriateness of the materials as well as the harmony of the colours are all in balance – is still strongly present today. These properties form the basis for the sustainable use of the hospital also in the future.

Fig. 36. One of the patients' rooms in the beginning of the 1930s.

3.c Comparative analysis

Some of the 20th century projects included in the World Heritage List represent the pioneering era of modernism, while others represent later eras. The building types vary, from residential buildings to administrative buildings and schools. As regards hospital buildings, the Hospital de Sant Pau (together with the Palau de la Música Catalana, as "multiple locations") in Barcelona, Spain, has been on the World Heritage List since 1997. This Art-Nouveau-style hospital, consisting of several separate buildings, designed by Lluís Domènech i Montaner, was built between 1901 and 1911 and 1914 and 1930. The building still functions today as a hospital. The Zonnestraal Sanatorium in The Netherlands, designed by Johannes Duiker and Bernard Bijvoet, is, like the Paimio Sanatorium, also on the tentative list.

There are several notable sanatorium buildings among the internationally best-known sites of modernism from the 1920s and 1930s, above all Zonnestraal and Paimio. In the canonical works of architectural history these two buildings are repeatedly mentioned as key international works of modernist architecture.

A considerable number of new sanatoriums were built in the early decades of the 20th century, and new sanatorium architecture from different parts of Europe was presented in numerous international and regional architectural reviews. The DOCOMOMO organisations (i.e. International working party for Documentation and Conservation of buildings, sites and neighbourhoods of the Modern Movement) in different countries have included preserved sanatoriums on their tentative lists. Compared to Zonnestraal and Paimio, however, many of the other sanatoriums from the Modernist era have already undergone considerable alterations, and a few have even been demolished.

Models and ideals of sanatorium building

Like mental hospitals, tuberculosis sanatoriums have been communities isolated from their surroundings. The healing effects of fresh and dry air had been known already for a long time. In central Europe sanatoriums were located in the mountains. The first tuberculosis sanatorium was founded in 1854 in Görbersdorf in Germany. The treatment consisted of providing tranquil surroundings, good food, rest and light physical exercise. With regard to both its location and function, Görbersdorf served as a model for subsequent sanatoriums.

The therapeutic and social aspects became a part of the treatment for tuberculosis in the latter part of the 19th century. More attention was paid to hygiene. The public sector began to invest in building facilities for the treatment of tuberculosis in the beginning of the 20th century. The needs of the working class and the poor began to be acknowledged.

In the 1920s and 1930s there was a lively debate regarding the architectural solutions for hospitals and sanatoriums. Both the pavilion system, that is, a complex consisting of separate buildings, as well as the more compact centralised building system, the so-called "Block system", were in use. The latter system of hospital building came from the USA. International organisations were founded and design issues were discussed at conferences and in publications. Sanatorium architecture from different parts of Europe was presented in several international and regional architectural journals.

In his book *Befreites Wohnen* (Zürich, 1929) architectural historian Siegfried Giedion used the example of sanatoriums as models of modern architecture. The themes of his book were the slogans also featured on its front cover: *Licht, Luft, Oeffnung* [Light, Air, Openness]. The examples were Waiblingen (Richard Döcker 1926-28), Zonnestraal (Bernard Bijvoet and Johannes Duiker 1925-28) and Volksheilstätte in Davos (1907). The French architectural journal *L'Architecture d'aujourd'hui* also presented hospitals and sanatoriums in a special issue in 1934 and in an extensive article in 1938. The Japanese architectural journal *Kokusai Kenchiku* presented European sanatorium projects in 1934.

The ideology of functionalism was to a large extent based on the natural-scientific world view and positivist thinking of the 19th century. Scientificity, functionality rationality and efficiency became new ideals and virtues for the individual and society generally.

Functionalist buildings were subconsciously identified with the healthy body, and became a means to promote health. Modern architecture became a sort of medical tool that strengthens and protects the body. It was also thought that it would lead to a new, increasingly better society. Alvar Aalto defined, at a meeting of architects in Trondheim, Norway, in 1930, the new role of the architect: "The functionalist architect is, as a type of profession, something altogether different than the old architect. He really is not an architect at all, but a social administrator."

"The house is a machine for living in" was Le Corbusier's well-known maxim. Correspondingly, hospitals

Fig. 37. A reclining chair for the patients' sun balcony.

and sanatoriums can also be seen as machines for curing patients. The principles of light, hygiene and practicality were implemented in hospital design. These requirements went well together with the treatment of tuberculosis that prevailed at that time. Physical exercise, roof terraces for soaking in the clean air, hygiene and whiteness were thought to prevent tuberculosis. A sanatorium, where the patients spent a long time, can be compared functionally to collective housing or a passenger ship, which, indeed, the functionalist ideology was compared to in its early stages. In the design of the tuberculosis sanatorium, the functionalist ideology could be implemented almost fully.

The terraces and verandas sheltered by canopies were from the very beginning a part of the architectural character of sanatoriums. The influence of light, orientation and colour on the healing process was emphasised in the 1920s and 1930s. Large (usually southwards-facing) sun balconies, where the patients could recline, came into use. The balconies had to be easily accessible from the treatment wards. The use of yellow, which emphasised sunlight, was encouraged in the colour schemes. Calm colours, on the other hand, were suitable for the surgical wards.

Like modernist architectural expression in general, the new hospital architecture was closely linked with the reforms in building technology, relying on the daring use of concrete, steel, and large areas of glass.

Furniture design was an issue of special importance in tuberculosis sanatoriums. Patients spent long periods in reclining chairs. These chairs had to be hygienic, that is, easily cleaned. The correct angle for the back rests facilitated the patient's breathing. It can be shown that Alvar Aalto took the design of patient chair design furthest.

Finnish architect Hilding Ekelund wrote in 1938 about hospital design in an article titled "Uudenaikaiset rakennukset" ["New types of building"] (In: *Keksintöjen kirja, Rakennustaide ja rakennustekniikka*, Edited by C. Lindberg, Porvoo, 1938). He emphasised that a modern hospital is a complex institution that changes with the rapid development of medicine. Hospitals specialising in the treatment of different illnesses required their own special solutions. Unlike in other hospitals, communal social spaces and patient dining halls were included in tuberculosis sanatoriums. Individual patient balconies did not become common in Finland, as it was seen as more economic to build communal sun decks.

Fig. 38. A side table in the patients' room.

The illustrations for Ekelund's article included typical floor plans for a sanatorium, as well as the balcony facades of the Martel de Janville Sanatorium in Passy, by architects Pol Abraham and Henry-Jacques Le Même, and the Teplitz Sanatorium, by architect Jaromir Krejcar. At the end of his article, Ekelund described the Paimio Sanatorium in detail and presented the dimensions and furnishing of the patient rooms as a model solution. He considered Paimio Sanatorium as an exemplary model of modern principles: "According to the critiques of numerous foreign experts, [Paimio Sanatorium is] in many regards exemplary and undoubtedly one of Europe's most interesting buildings, which thoroughly bears the stamp of our time." The high regard for Paimio Sanatorium at the time of its construction and its importance as a model example seem irrefutable.

European tuberculosis sanatoriums in the 1920s and 1930s

Numerous tuberculosis sanatoriums were built in different parts of Europe at the end of the 1920s and beginning of the 1930s following a tuberculosis epidemic. The most common areas for building sanatoriums were the mountain regions offering healthy and oxygen-filled air. Examples of these include the Haute-Savoie region in France, the Tatra region in Czechoslovakia and Switzerland.

One of the most important and widely published sanatoriums of that era, the Waiblingen Sanatorium designed by Richard Döcker (1926-28) has been demolished.

Sanatoriums of the Haute-Savoie area

Plateau d'Assy in France has one of the most important concentrations of sanatoriums in Europe.

L'Association philantrophique Les Villages Sanatoriums de Haute Altitude (AVSHA), founded in 1922, commissioned from architects Pol Abraham (1891–1966) and Henry-Jacques Le Même (1897–1997) a series of sanatorium designs: the Roc-des-Fiz sanatorium (opened 1932, destroyed in a landslide in 1970) intended for children, the La Clairière sanatorium (later called Guébriant) for women, and the Martel de Janville sanatorium for military personnel.

The La Clairière Sanatorium (Guébriant) was built in 1933-1934. The pavilion-type complex comprised five buildings linked by covered corridors. The main building housed the most seriously ill patients, while the other patients were housed in the wing pavilions, in single-person rooms with a balcony. The main building was a kind of prototype for the T-shaped hospital which was generally in use in the 1930s. The architecture is a simplified modernist style. The building is characterised by its stepped profile, a composition that required the use of reinforced concrete. Nowadays the sanatorium functions as a family holiday centre (*Centre familial des vacances*).

The Martel de Janville sanatorium was built with private funding for French army officers and non-commissioned officers. It was designed in 1934 and completed in 1937.

All the functions of the "compact" solution are concentrated in a single large building. The overall impression of the building is such that the wings, containing

Fig. 39. Physicians inspecting x-rays in the 1930s.

different functions, seem to be supported by the large chimney of the central axis. The impression is massive yet rational. The north side is reserved for the administration and on the upper floor is a chapel. The internal circulation system was carefully studied. On the long south façade there are individual balconies for the patient rooms. The materials reflect a concern for hygiene. Jean Prouvé (1901-84) designed part of the furniture in the patient rooms. The concrete structures were designed by the office of François Hennebique. The chapel mural is by Angel Zarragan (1886-1946).

The Martel de Janville Sanatorium underwent various changes from the 1950s onwards, for instance through extensions both into the courtyards and underground. Also, the colouring of the facades was changed. In the 1990s changes in fire safety regulations required changing the steel frame of the dining hall to an aluminium one and the corridors were compartmentalised.

Today the sanatorium functions as the Centre Médical Spécialisé Praz-Coutant, and is owned by the Fondation des Villages de Santé et d'Hospitalisation en Altitude (VSHA). The sanatorium is seen in all its splendour against the scenery of the Mont Blanc mountain.

The Martel de Janville Sanatorium is included in the French DOCOMOMO list. Its protection status is "Protection au titre des Monuments Historiques à l'etude, envisage pour 2005-2006".

The Machnáč and Morava sanatoriums in Czechoslovakia

The Tatra area was the sanatorium zone of Czechoslovakia (which became an independent state in 1918). The two Czech sanatoriums that can be compared to the Paimio Sanatorium are the Machnáč Sanatorium (designed by Jaromir Krejcar, 1932) and the Morava Sanatorium (designed by Bohuslav Fuchs, 1930–1931).

The hot springs of Trenčianské Teplice in Slovakia were known already during the Roman times. In the 19th century a hotel and a spa were built in the bathing institution. The Machnáč Sanatorium was built by the Office Workers' Hospital. Architect Jaromir Krejcar (1895-1949) won the architectural competition for the design of the building held in 1929-30. The sanatorium was completed in 1932.

The purpose of the extensive architectural competition for the sanatorium was to design a hotel-like sanatorium. Inspiration was sought from, for instance, ship building. The central concept was based on the T-shape plan: the clear differentiation of the therapy wing, ward wing and communal wings. The latter two had balconies and a sun terrace was placed on the roof of the ward wing.

The bearing structure of the building is concrete, a cast-on-site pillar and beam frame. The window construction was progressive for its time: the double-glazed metal windows were supplied with wooden ventilation hatches.

In designing the rooms, Krejcar paid particular attention to fittings and details, their user-friendliness and style. The

wooden tables and chairs of the wards as well as the tubular steel furniture came from the Thonet production.

Through colour Krejcar emphasised the architectonic elements and facilitated orientation within the building. The main colours were white, black, red and blue, and in places yellow was used as a contrasting colour. The whole building was rendered with a smooth almost pure white render. The window frames were painted white in the communal spaces, but elsewhere black. External rails were painted cobalt blue. Yellow was used for the rubber matting of the communal spaces and for the curtains of the bedrooms.

The Machnáč Sanatorium was important above all in health spa architecture, and influenced other health institutions in Czechoslovakia during the 1930s. Examples of this influence were: the Morava Sanatorium in Tatranská Lomnica and the Zelená Žába health spa in Trenčianské Teplice, both designed by Fuchs and the sanatorium in Vyšné Hágy designed by František Libra and J. Kan. The influence was visible also in many post-war hospitals.

The Machnáč Sanatorium nowadays functions as a hotel, and is included on the Docomomo register.

Czech architect Bohuslav Fuchs (1895–1972), together with Karl Ernstberger, designed in 1930–1931 the Morava convalescence hotel, situated in Tatranská Lomnica in the Tatra Mountains. The building was commissioned by the Provincial Insurance Institute of Brno, and was part of a larger holiday village built in the 1920s.

The building has a T-shaped floor plan. In the long hostel wing the two-person rooms are placed at an angle to the central corridor. The saw-tooth walls form sunny enclosed corners for the balconies linked to the rooms.

The communal rooms are situated in a separate wing characterised by stepped outdoor terraces, the horizontal lines of the facades of which are divided up by strip windows. Forming a contrast to the light, smooth-rendered surfaces and the light steel balcony rails are embankments built from split natural stone. The detailing throughout the building is simplified.

Standardised wooden Thonet chairs and steel-tube-framed tables were part of the original furniture scheme of the patient rooms.

The walls sections set at an angle and the stairs and terraces of the communal spaces facing different directions enliven the massing. The American journal *Architectural Forum* described the building as "Babylonian in profile, Gallic in detail and Czech in the boldness of its concept".

The building was renovated in 1976–1978. Nowadays it functions as a hotel. It is also included in the Docomomo register.

The Davos-Clavadel Sanatorium, Switzerland

The Schatzalp Sanatorium, completed in 1899-1900, situated above the town of Davos, has been the model for sanatorium architecture. Its design features included a flat roof, which prevented snow from sliding down from the roof, and an architecture free of historicising decorative elements.

The Clavadel Sanatorium was opened in 1903 as a private sanatorium, but later became a public "Volksheilstätte". On its completion, the building was regarded as a model example for the design principles of functionalism and a breakthrough in the new alpine architecture. The winner of the architectural competition for the design of the building held in 1930 was architect Rudolf Gaberel (1882–1963). Engineer J. G. Wiebenga also took part in the design of the sanatorium.

The patient-room wing of the T-shaped building was oriented to face south-westwards, towards the sun and the view overlooking the valley. The façade is dominated by the balconies. The balconies had open horizontal steel-tube rails, which made the clearing of snow easier and didn't shade the balcony levels. Wind-sheltered glazed sun terraces were located at the ends of the patient-room wings. The surgical and medical treatment wing was placed transversally on the mountain slope side. Because of the compact floor plan and the concentrated vertical connections, internal circulation was minimised.

In 1961 a specialist clinic for internal medicine, allergies and skin diseases was housed in the building. Nowadays the building complex functions as the Zürcher Höhenklinik Davos-Clavadel.

Alterations and extensions (designed by architect Werner Bauert) have been carried out in the clinic since 1998. Apart from the furniture of individual rooms, the clinic had not fundamentally changed until then. New healthcare standards required extending the building complex. The intention has been to further renew and alter, among other things, the original windows and doors. The extension and alteration work has not treated kindly Gaberel's original building, or its relationship with the landscape.

The Sotiria Tuberculosis Sanatorium, Athens, Greece

The Sotiria Sanatorium was the first medical building in Athens in which the Bauhaus ideology was applied. Ioannis Despotopoulos (also known as Jan Despo, 1903-1992) was a student of Walter Gropius in the Bauhaus in Weimar. When completed in 1937, the sanatorium had 420 beds. The building is characterised by the groundbreaking way – for that time in Greece – of treating all aspects of hospital architecture: the functional, social, technical, aesthetical but also psychological aspects. Particular attention was paid to the relationship between the patients and the nursing staff.

The sanatorium was comprised originally of the following distinctive sections: the patient wards in the long main wing, four refectories in a building that is linked to the patient wards through bridge-like corridors, patient foyers on each floor, a festive hall located in a separate wing raised on pillars, south-facing balconies for winter use and north-facing balconies for summer use.

The functional organisation is visible in the massing, characterised by sculpturality, proportional harmony and a striving for asymmetry. The facades have an extremely simplified appearance.

After the Second World War and the conquering of tuberculosis, several changes were made to the interior the building. The exterior, however, has been preserved. The building functions nowadays as a hospital for pulmonary diseases *[Hôpital régional général des maladies du thorax]*.

From a bird's eye perspective, the low canteen section placed in front of the main wing and the east wing set at an angle resemble to some extent the composition of the Paimio Sanatorium.

Zonnestraal Sanatorium, Hilversum

The most important comparison with the Paimio Sanatorium is the Zonnestraal Sanatorium (designed 1925-1927, completed in 1928 and 1931) in Hilversum, The Netherlands, designed by Johannes Duiker (1890-1935) and Bernard Bijvoet (1889-1979). The engineer J. G. Wiebenga was also involved in the planning. Common to both Paimio and Zonnestraal is a modernity in regards to technical solutions and nursing practices, as well as the architecture. The central parts of the Zonnestraal Sanatorium were completed a couple of years before Paimio.

In terms of layout, Zonnestraal is a pavilion-type hospital consisting of separate units – while in Paimio all functions, apart from staff accommodation, were situated in different wings of a single building. In this sense, Paimio represented a newer way of thinking than Zonnestraal.

The Zonnestraal Sanatorium was originally intended for diamond cutters who had contracted tuberculosis. In 1905 diamond cutter Jan van Zutphen founded the Koperen-Stelenfond Foundation, which provided the money to found the Zonnestraal Sanatorium. The foundation bought a 116-hectare farm in Hilversum, in the villa of which 19 tuberculosis patients could be treated. Van Zutphen had become acquainted with Johannes Duiker in 1924, and commissioned him to design the new institution, which would include both a sanatorium and an institution for both preventative and post-treatment care, including work therapy facilities. The Zonnestraal Society was established in 1925, and construction work on the building, intended for 100 patients, began in 1926. At the commencement of the building work, 275,000 spruce plants were planted on the surrounding heath land.

The original design comprised a main building and four symmetrically-placed pavilions, only two of which were actually built, one on the south-west and one on the south-east side of the main building. The main building and the Henri ter Meule ward pavilion was completed in 1928. The structural frame of the Mr. H.C. Dresselhuys ward pavilion was also completed in 1928, but was not taken into use until 1931.

The main building is divided into three wings: on the north side is a medical treatment ward; on the south side are terraces, a bathing section and boiler room; in the centre are a kitchen and pharmacy; and above this is a large dining hall. In both pavilions there were two 25-patient bed wards linked by a common room.

The De Koepel residence, located in the sanatorium grounds, designed by Jan Duiker, was completed in

1931. The twelve-corner two-storey residential building comprised 18 rooms, a communal kitchen, a bathroom and a communal social space.

The Zonnestraal Sanatorium represents the so-called *Nieuwe Bouwen*, or Dutch modernism. Another forefront example of this trend was the Van Nelle factory in Rotterdam (1925-31), designed by Brinkman and Van der Vlugt. The sanatorium's designer, Jan Duiker, emphasized the compatibility of form, function and materials as well as economical use. Practicality and economy were uppermost in the design of the building. The designers even considered their buildings as "disposable utilities".

The architecture of the buildings expresses the ideals of "light and air". The Zonnestraal Sanatorium is considered to be one of forefront examples of Dutch modernism, and modernism in general. The building has a concrete frame which together with the cantilevered structures form a uniform whole. The single-glazed windows and glazed walls have steel frames. The dimensioning of the buildings was based on a unit of 1,5 metres, which was repeated in the width of the corridors and balconies, in the dimensions of the doors and glass panes and in the dimensions of the 3-metre wide single-person bedroom. In the colour scheme for the building Duiker used his own tried-and-tested colours: white, black and a particularly bright pale blue ('Duiker blue').

The purpose of the sanatorium was to act as a self-reliant work colony. Those patients who were in better health took part in the work therapy. The post-care patients worked on a farm or in workshops. One of the ideals of Zonnestraal was self-help. Work therapy comprised of building work and building maintenance as well as farm work and maintenance work on the farm. The farm produce was also sold.

Another ideal of the institution was enculturation. The goal of the founders of Zonnestraal was to promote its patients to take up music, theatre, arts and literature. Regular concerts were held in a hall reserved for music.

It had been predicted that the Zonnnenstraal Sanatorium would be in use for only a short period because it was believed that tuberculosis would be eradicated within 30 years. Duiker himself was of the opinion that the building would no longer be needed when the original intention disappeared. Zonnestraal Sanatorium was converted to general hospital use in 1957 when tuberculosis decreased. In 1993 the actual hospital activity came completely to an end. Since 1995 the building complex has functioned as a new type of polyclinic health centre.

The architecture of Zonnestraal is characterised by the extreme minimalisation of the reinforced concrete structures and the use of steel window frames. However, the latter were poorly protected from corrosion, and particularly the Dresselhyus pavilion suffered considerable damage later on. This issue has been highlighted when discussing the problems of repairing Zonnestraal and in regard to the issue of authenticity (see: Wessel de Jonge, *How to Prolong a Limited Lifespan*, IV-3, Preserving the Recent Past).

Zonnestraal has received the status of a building monument, and an extensive restoration project was initiated in the 1980s. The De Koepel residence was restored in 1995.

The restoration of the workshop buildings was the first to be completed, in 2002. The main building was restored to its earlier appearance in 2003. The restoration was planned by architects Hubert-Jan Henket and Wessel de Jonge.

Presently the main building functions as a health care centre.

Sanatorium construction in Finland

The first tuberculosis sanatoriums in Finland, in Takaharju and Nummela, were opened in 1903. The first large public sanatorium, which had both paying and non-paying patients, was opened in Harjavalta in 1925. In 1930-1933 eight new public sanatoriums, including the Varsinais-Suomi sanatorium in Paimio, were founded. The primary goal of the architectural competition for Paimio was to find new solutions for the placement and organization of the spaces. This was the first attempt in Finland to solve the treatment of a widespread disease through architecture.

The design of the Paimio Sanatorium entailed a great challenge for Alvar Aalto because he set as his task to design and define a completely new building type, that is, a standard sanatorium. This for its time new building type would include new tasks and new requirements. A new function justified the realisation of a new form language. As Aalto said: "We can not create new form where there is no new content".

The Paimio Sanatorium can be seen as the central work of both Finnish functionalism and of Aalto himself. It was progressive in terms of technical development and as a task of social-hygienic building, and in that sense a pure representative of the 20th century building heritage. Paimio Sanatorium did indeed become a unique sanatorium in Finland in terms of its comprehensiveness. The other sanatoriums from the same time either followed more traditional design principles of nursing institutions or followed the Paimio model.

The design issues of the tuberculosis sanatoriums were under particular scrutiny at that time, because this specific hospital type was important in Finland. In Finland there was a relatively high number of people suffering from tuberculosis, and for most of those it was necessary, for social reasons, to arrange a sanatorium treatment.

Contemporary with the Paimio Sanatorium were the Tarinaharju Sanatorium in Pohjois-Savo and the Keski-Häme Sanatorium in Kangasala, both designed by architect Eino Forsman and completed in 1931. The Härmä Sanatorium, designed by Ilmari Launis, and the Päivärinne Sanatorium (situated by the Oulujoki river in north Finland) designed by Jussi Paatela were completed in 1933. Paatela also designed the Ahvenisto Sanatorium in Hämeenlinna and the Kiljava Sanatorium in Nurmijärvi, both completed in 1938.

The construction of sanatoriums continued at the end of the 1930s. Examples are the Kauppi Sanatorium in Tampere, designed by Bertel Strömmer, completed in 1939 and the Östanlid Sanatorium in Pietarsaari, designed by Ragnar Wessman, completed in 1940.

The Paimio model was most clearly followed in the sanatoriums of Kiljava and Östanlid. This was particularly evident in the exterior of the buildings, with the placement of sun decks at an angle, and emphasizing the functionalist appearance.

3.d Integrity and/or Authenticity

The relationship between the landscape and the buildings is a central aspect to the Paimio Hospital, and still today this relationship retains its authenticity and originality. The nearby trees and in particular the wider forest sheltering the buildings form a zone that frames the buildings. Over the years, the immediate vicinity of the buildings has generally retained its character. The network of paths adjacent to the sun deck balcony wing, the so-called 'formal garden', with its water ponds, is partly grassed over. The elements that have been a part of this formal garden can be located and restored. Also, new paths have arisen alongside the original paths.

The group of white buildings comprising the hospital complex appear scattered among the trees of the forest site. Today it is still possible to follow the technical processes that served the functioning of the hospital. Continuous use and maintenance have ensured the preservation of structures and even many original details.

Paimio Hospital has through its entire history been used as a hospital. The continuity of the hospital function is also evident in the fact that the hospital's special-

Fig. 40. The original reading room is nowadays used as a cafe.

ist medical field is still pulmonary diseases. Tuberculosis patients are still treated there. The standard of medicine in Paimio Hospital has always been very high. The continuity and authentic use of the building have been of central importance, even though renewals and alterations have been made for hospital-related technical reasons. The greatest changes to the main hospital building have been the conversion of the patient sun balconies to internal spaces and the construction of the surgical wing (though also designed by Aalto). It has been possible to place the requirements of new treatment methods within the building in an unforced way.

The spatial solution and room division in the main building have been well preserved. However, various building parts and materials have been changed in functionally important spaces (e.g. the patient rooms). These alterations are due to new functional requirements. Material authenticity can be seen in the main building in the structures and many other building parts; for instance, the major part of the windows is original. Surface materials have been and continue to be renewed: the essential aim in this, however, is maintaining the spirit and appearance of the building.

The most important preserved spaces and spatial sequences in the sanatorium building are marked in the accompanying floor plans. Preservation has been examined with regard to building parts that were completed in 1933.

I – A space in its original state

II – The principles of the original spatial subdivision have been preserved

III – The spatial subdivision and surface materials have been changed, the fixed furniture has been removed

Later alterations have been adapted to follow the idea behind the original solutions. This is, on the one hand, an indication of a hospital architecture that worked well already from the beginning and, on the other hand, the high standard of the planning and implementation of later changes. It can be said that still today the Paimio Hospital is a medical instrument. The architectonically central spaces have preserved their form well. The views from both the windows and the roof terrace of the main build-

Fig. 41. The reading room in the 1930s.

ing have remained basically unaltered – a sea of green tree tops.

The hospital complex built during the 1930s included, in addition to the main hospital building, the chief physician's residence, the junior physicians' row house, the staff residence, the morgue/chapel, the pumping station and the waste water purification plant. The uses of these buildings have partly changed: the chief physician's residence is nowadays a kindergarten and the staff residence is in use as an office. The junior physicians' row house is still in residential use.

Alterations to the exterior of the building are, as a rule, minor. The staff housing has been changed by enclosing the first floor side corridor. Despite, in some cases, changes in function, the spatial subdivision of the dwellings as well as the original details have mainly been well preserved. The junior physicians' row house has been particularly well-preserved both with regards to the spatial subdivision of the dwellings and many of the original details. The houses built later complement the hospital buildings in an unassuming way.

The pumping station is still in use and its structures are in a comparatively good condition. The repair and restoration work of the morgue, the so-called Rose Cellar, has begun even though it is no longer in its original use.

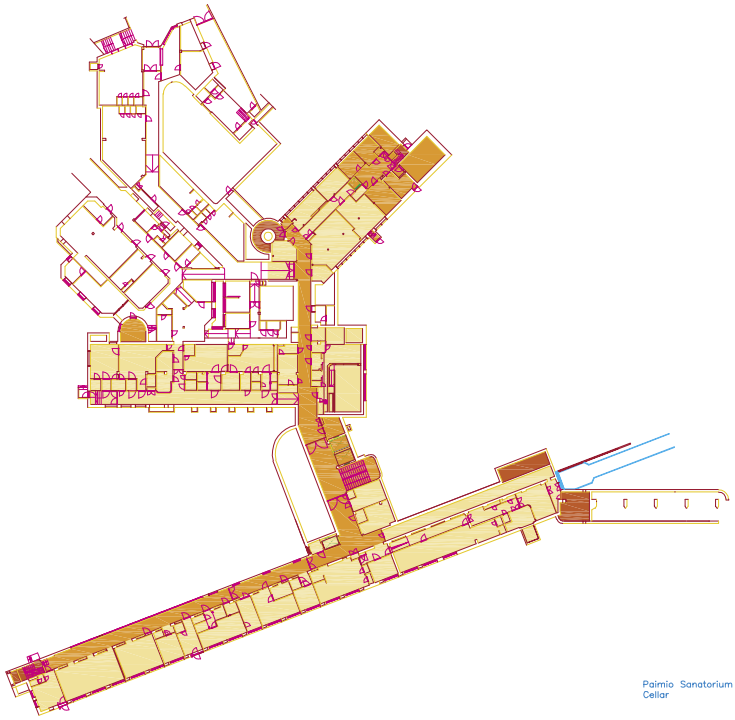
From the point of view of authenticity and integrity, it is essential that the totality remains in tact and that the hierarchy and atmosphere of the spatial sequences remain 'untouched'. The elements central to the scale of Paimio Hospital have been well preserved.

From the 1970s onwards, the National Board of Antiquities has monitored the alterations to the hospital, and directed the restoration work for several years before it became protected through the Building Protection Act. There was a close cooperation with the Alvar Aalto architect's office, which was until the 1990s responsible for the alterations. In recent years this responsibility has been continued by architects Laiho-Pulkkinen-Raunio. The core issues of the conservation and repair of Paimio Hospital have been purposefulness and a long-term outlook as well as the aim to guarantee high-class design.

Integrity has been guaranteed by legislative means: the sanatorium is protected through the Building Protection Act. The surrounding landscape has remained as an unbuilt forest area dominated by pine trees. By means of town planning methods, the preservation of the landscape and a buffer zone surrounding the actual hospital area is secured.

Fig. 42. The staff row house.

Fig. 43. The head physician's house is nowadays used as a kindergarten.



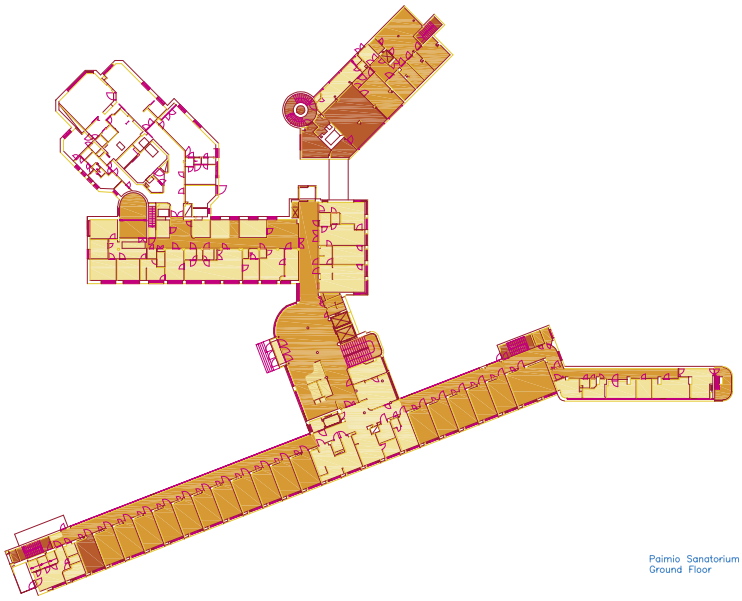
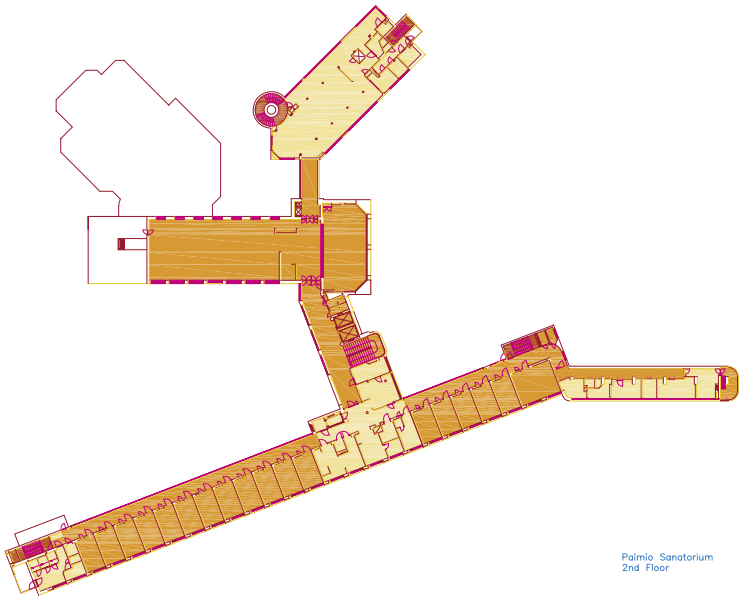
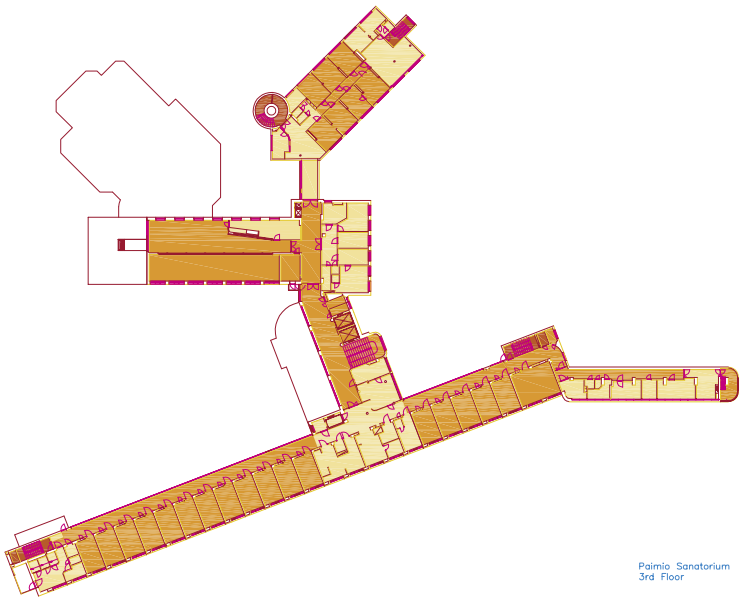


Fig. 44. (pages 47-49)
The degree of preservation of the main building (Basement – 6th floor).

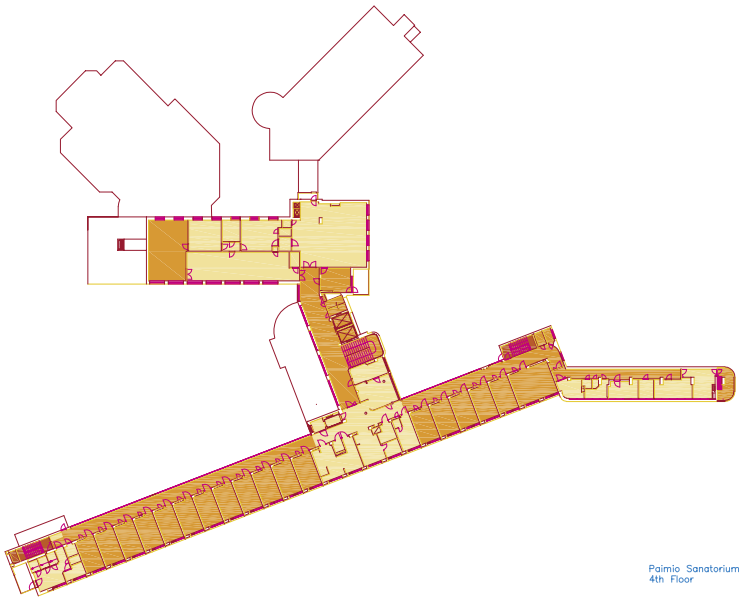
- I A space in its original state.
- II The principles of the original spatial subdivision have been preserved.
- III The spatial subdivision and surface materials have been changed, and the fixed furniture has been removed.



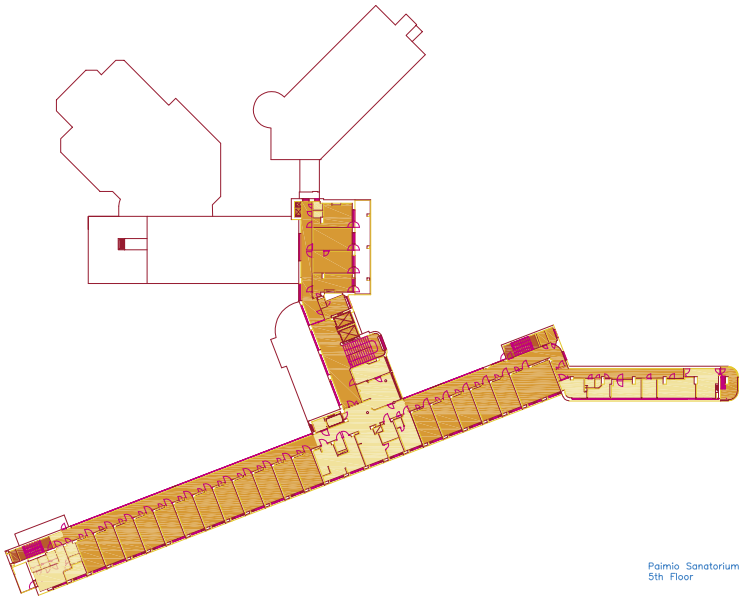
Paimio Sanatorium
2nd Floor



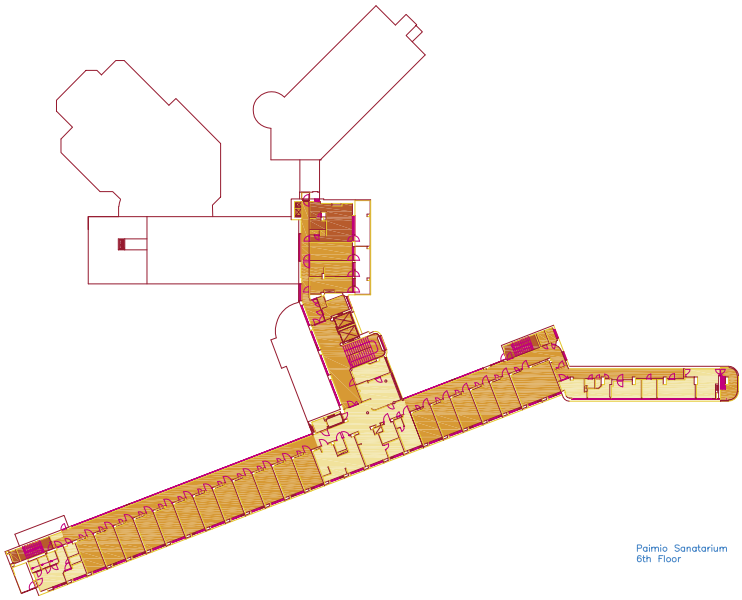
Paimio Sanatorium
3rd Floor



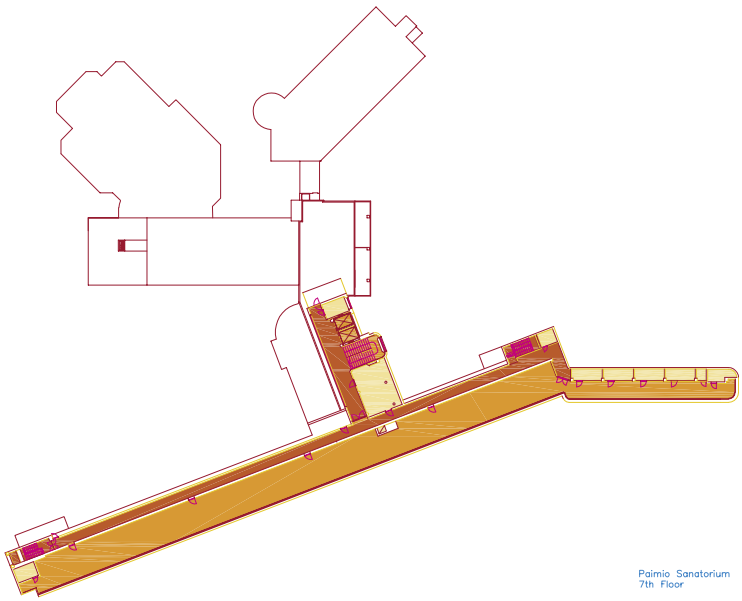
Paimio Sanatorium
4th Floor



Paimio Sanatorium
5th Floor



Paimio Sanatorium
6th Floor



Paimio Sanatorium
7th Floor

Fig. 45. The main staircase.

4. State of Conservation and factors affecting the Property

4.a Present state of conservation

The hospital area and buildings are continuously maintained and repaired. The hospital has its own permanent maintenance staff that is responsible for the regular upkeep and maintenance of the buildings as well as the maintenance of the surroundings. The planning of both smaller and larger changes is carefully prepared in cooperation between the user, planner and National Board of Antiquities. The aim of the monitoring is to implement the stipulations of the building protection decision regarding the building and grounds.

Generally the buildings of the hospital area are in everyday use and in a good condition. The Rose Cellar, that is the morgue/chapel, is not in use, though the process of repairing it has begun.

Restoration interventions concerning earlier alterations in the buildings are carefully considered. These interventions can be considered in important places and are carried out when such a place requires technical repairs. The most important of these alterations is the canopy of the main entrance to the main building. The present bulky structure, which is due to the later addition of insulation, will be restored, in connection with next repair work, to its original structure, a thin concrete slab.

During the period 2003-2005 the following interventions were carried out in the main building: building a new isolation room, converting five patient rooms into research rooms and building three new parking areas in connection with the residential buildings. The junior physician's row house has been renovated.

The garden layouts surrounding the main building have changed over the years and partly become re-forested. The network of paths of the south courtyard is no

Fig. 46. The curved canopy at the main entrance.

Fig. 47. The interior of the Rose Cellar.

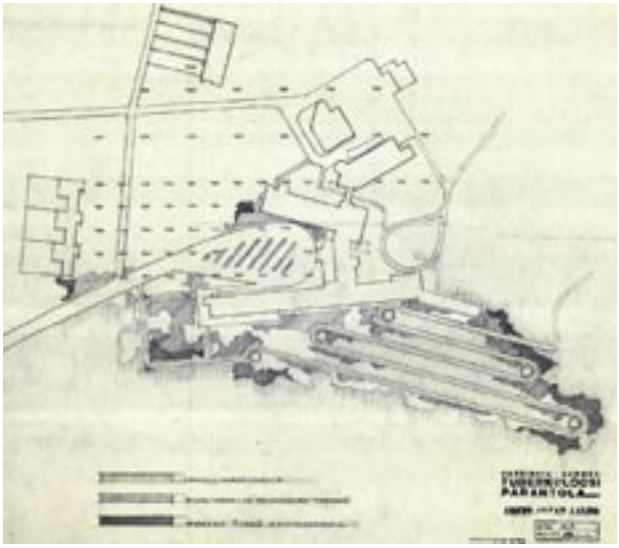


Fig. 48. Site plan, with the original layout for the hospital grounds.

Fig. 49. The patients' sun balcony just after the completion of the sanatorium. On the right is the serpentine path with water basins.

Fig. 50. A fountain, a remnant of the serpentine path scheme.

longer in use. One of the fountain water basins is currently used as a flower bed.

An inventory and repair plan for the Paimio Hospital gardens and landscape is currently being prepared and is due for completion in 2006. An inventory offers an important starting point for the planning of the environmental maintenance and landscape planning. An inventory of the vegetation and trees in the near surroundings together with a maintenance plan will help in the preservation and restoration of central features of the landscape of the hospital area. Also, the so-called Lemmenlampi area, the pumping station area south of the hospital, and the adjacent agricultural centre and greenhouses, as well as the area of the biological waste water purification plant are included in the area being researched.

The exact position of the water basins and the paths linking them in the original scheme is being researched and the technical condition of the infrastructure is being assessed. Based on the above garden and landscape report, a more detailed restoration plan will be drawn up, the aim of which is to restore the water basins and paths to their original appearance. The near vicinity of the main building has altered over the years, but the original spatial layout can be restored through (nature) management. The path network will also serve the recreational needs of the patients.

The Rose Cellar has not been in use since the 1970s. Its surroundings have in recent years been cleared, and trees and coppice have been removed from the roof. The National Board of Antiquities has made restoration funds available in order to carry out research excavations and to check the repair plan. Repair work began in 2005 by uncovering the structures and draining them of water. After the restoration the Rose Cellar could function as a space of contemplation for visitors. The work is due for completion by 2010.

The pumping station has been an essential part of the workings of the sanatorium, and it is in a fairly good condition. It provides irrigation water for both the Finnish Forest Research Institute (METLA) and the Paimio Hospital. The structure of the Lemmenlampi dam still exists but due to leakages there is no longer any pond reservoir. In the vicinity of Lemmenlampi and the pumping station are an 'educational forest' and 'educational nature trail' founded by the Southwest Finland Forest Centre. Structures that earlier served the hospital are now part of the nature trail.

The original building and structures of the waste water purification plant are no longer in use.

4.b Factors affecting the Property

(i) Development Pressures

There are no known building projects or any other projects that threaten the Paimio Hospital area itself or the immediate surroundings. As things stand at the moment, patient care will continue at the Paimio Hospital, with an emphasis on the treatment and rehabilitation of pulmonary diseases and the treatment of rheumatic diseases. On the other hand, the hospital is also being developed towards the direction of more demanding tuberculosis treatments as the number of these patients is now increasing.

Planning processes affecting the surroundings are being monitored and possible future building is being di-

Fig. 51. The landscape surrounding the hospital is dominated by forest.

rected so that it will not affect important features in the landscape.

The surrounding forest areas are maintained through forestry management.

(ii) Environmental pressures

Paimio Hospital is not threatened by any environmental changes. There are no industrial complexes in the near vicinity emitting pollution that could harm the buildings. The hospital is also positioned at some distance from main traffic arteries, and there is no traffic noise causing harm to the hospital buildings or surroundings.

(iii) Natural disasters and risk preparedness

Paimio has, in connection with the everyday running of the hospital, a fire safety system and rescue plan. This also applies to the other buildings in the area.

The only natural threat facing the area and the surroundings are storms that can fell trees in the surrounding forest. The Finnish Forest Research Institute (METLA) monitors the condition of the trees in the forest area it controls and carries out any necessary interventions.

(iv) Visitor/tourism pressures

During the most recent summer season (June-August 2005) visitors' tours of the public spaces of the hospital building were held twice a day. The tour shows the central architectonic spaces of the hospital building as well as a patient room that has been preserved in its original state. The tours are organised by the Paimio City Tourist Information Office in cooperation with the hospital. Supply and demand have corresponded. Between September and May it is possible to book guide services through the Paimio City Tourist Information Office. The annual number of visitors to the Paimio Hospital has been approximately 2500.

Due to the ongoing use of the building, it is not possible to increase the number of groups visiting the hospital.

There are no restrictions on walking in the hospital grounds, and it does not seem to cause any problems to the functioning of the hospital.

(v) Number of inhabitants within the property and the buffer zone

There are presently 300 members of staff in the hospital. There are places for 125 patients, but each day there are considerably more people visiting the polyclinic for research and treatment appointments. 55 people live in the hospital grounds. Approximately 10,000 people live in the area of the town of Paimio. There are approximately 570 people living in the buffer zone.

Fig. 52. The main staircase as a part of the rear facade.

5. Protection and Management of the Property

5.a Ownership

Turku University Central Hospital owns the Paimio Hospital and the surrounding land. The demarcation for the World Heritage area stretches also to the State-owned land managed by the Finnish Forest Research Institute (METLA), which is under the Ministry of Forestry and Agriculture.

The buffer zone around the hospital area consists mainly of land in private ownership as well as partly of land managed by METLA.

Fig. 53. An office serving the patients' wing.

5.b Protective designation

The Paimio Sanatorium and its surroundings are protected by the Building Protection Act (60/1985) (Council of State decision no. 43/561/92, 18.3.1993).

The protection of the Paimio Hospital encompasses the main hospital building, the former heating plant, the garage, the former staff housing, the former junior physicians' row house, the former chief physician's house and the funeral chapel (Rose Cellar), as well as the surrounding area.

The argument for the decision to protect the building was that "Paimio Sanatorium and the residential and utility buildings are a national building monument of cultural-historical importance with regards to building history, architecture, building technology as well as its uniqueness." The special value of the site is to be preserved in connection with repairs, maintenance and alterations.

Fig. 54. A lamp in the patients' room.

The protection stipulations are as follows:

1. The exterior of the protected buildings must be preserved and in repairs original colours and surface treatments must be used.

2. The original interiors, structures, building parts, remaining fixed furnishings including original lamps and details of the hospital building, the former chief physician's residence, the junior physicians' row house and the funeral chapel must be preserved and the colours and materials of the original designs must be used in repair work.

3. The protected buildings and their surroundings must be maintained and conserved in accordance with their architectural and cultural-historical value. The buildings must be used so that their cultural-historical value is not endangered, and their use must serve the hospital function or a function that is in concordance with the original activity. Any repair or alteration work must be in concordance with the architectural value of the site and approved by the National Board of Antiquities.

4. The National Board of Antiquities has the right to issue more detailed guidelines about the application of the protection stipulations and grant minor exceptions from them.

The building protection legislation protects such buildings, groups of buildings and built-up areas which are part of the built heritage. The sites may have a cultural-historical value due to the building history, architecture, building technique, special environmental values, building use or events linked with it, or the uniqueness of the building or its typicality. Also the fixed furnishings are considered part of the building. The legislation can also protect a park connected to the building (See appendix 2.).

The National Board of Antiquities has also classified the buildings and the surroundings of the Paimio Hospital as a nationally important site that comes under the national protection interests of the Land Use and Building Act § 22.

The National Land Use Guidelines are part of the land use planning system of the Land Use and Building Act. The Act came into effect on 1st January 2000.

One of the six subject areas of the National Land Use Guidelines concerns cultural and natural heritage, recreational use and natural resources and another concerns areas that are special as natural and cultural environments.

The purpose of the guidelines is
- to ensure that nationally important factors are taken into account both in regional and municipal planning and in the action of the state authorities.
- to help in achieving the aims of the Land Use and Building Act and land use planning, the most important of which are a good living environment and sustainable development.
- to act as a tool for provisional guidance in issues of land use of national importance and to promote a consequent and uniform provisional guidance.
- to promote the enforcement of international agreements in Finland.
- to create land use prerequisites for the implementation of national projects.

In the special guidelines of the National Land Use Guidelines with regard to the cultural environment, it is stated, amongst other things, that national inventories compiled by authorities are to form the basis for land use planning. When making the decision the following inventories (in which the Paimio sanatorium is also included) were in existence:

"Valtakunnallisesti arvokkaat kulttuurihistorialliset ympäristöt", (Museovirasto, rakennushistorian osasto, julkaisu 16, 1993) ["Nationally valuable cultural-historical environments". National Board of Antiquities, Department of Monuments and Sites Publication 16, 1993].

5.c Means of implementing protective measures

The protection stipulations have been drawn up together with the building owner (Turku University Central Hospital). Also the City of Paimio has been consulted in the matter. According to the protection stipulations, the National Board of Antiquities must approve all repairs and alterations. In connection with such work, the National Board of Antiquities closely co-operates with both the hospital and the appointed architects (Architects Laiho-Pulkkinen-Raunio).

The goal in the land use monitoring, in accordance with the National Land Use Guidelines, is that no changes or building will occur in the area or in any individual buildings that would be substantially in conflict with the cultural-environmental values. The interest of the monitoring lies in the preservation of the existing buildings, structures and environments in the area, as well as possible infill building and adapting other changes to these environments. There is also an interest in the development and change of the environment in the near vicinity of the area and buildings, those outside the demarcated area but within the visual zone of influence. In practice monitoring means that the planning projects are discussed and then sent to the National Board of Antiquities for its comments.

In fact, with regards to the Paimio Hospital, protection and land use monitoring have already been successfully carried out since the 1970s.

Fig. 55. Ground floor corridor.

5.d Existing plans related to the municipality and region in which the proposed Property is located

Regional land use plan

The municipality of Paimio comes under the Turku City Regional Land Use Plan. The plan was put into effect by the Ministry of the Environment on 23rd August 2004 (decision nr. YM1/5222/2003).

In the Regional Land Use Plan the Paimio Hospital area is situated in an area categorized as a 'built-up area' (A), defined as follows: "Residential area and other built-up-area functions of national, regional or local importance. It includes, apart from residential areas, also local service centres, workplace areas and minor industrial areas that do not cause environmental disturbance as well as roads smaller than motorways, local recreational areas and areas of special interest."

In the Regional Land Use Plan the Paimio Hospital is marked as a complete built entity to be protected (SR 577009). It is subject to the protection statute: "The planning and building interventions must ensure and promote the preservation of the whole. Buildings and other structures must not, without particularly compelling reasons, be demolished." The SR code refers to the inventory catalogue of entities and areas of the built environment.

The forest area west of the hospital area has been marked as a recreational area (V), defined as follows: "Outdoors, camping, sports and other recreational areas of national, regional or local importance".

The area south east of the hospital area is dominated by agriculture and forestry (M). It is defined as follows: "Areas intended for agriculture and forestry which can also be used for permanent scattered settlements or holiday homes as well as public right of access for outdoor recreation and hiking." A planning stipulation of the M-area states that in order to complement and extend existing areas, it is possible, to a certain degree, through planning, to indicate also proposals for new permanent dwellings or other functions which do not cause environmental damage.

On the hospital area of the plan there is also a marking for the ground water area.

Fig. 56. A detail from the Land Use Plan.

Fig. 57. A detail from the Local Master Plan.

AO Residential area with detached single-family houses
PY Public services and administration area
VU Sports and recreation area
ET Community development area
SR Area protected under the Building Conservation Act
M Area dominated by agriculture and forestry
MU Area dominated by agriculture and forestry, the need for steerage recreation or environmental values
/ S Area where the environment is preserved

Local master plan

The Vista local master plan from 1994 is in effect on the area of the Paimio Hospital. The Paimio Hospital is indicated as "an area of public services and administration in which the environment will be preserved." Furthermore, the marking SR refers to protection according to the Building Protection Act (Ratified by the Council of State, 18th March 1993). The south and east sides of the Paimio Hospital area are dominated by agricultural and forestry areas of environmental importance. West of the road running in a north-south direction is a residential area consisting of single-family houses, which continues as a reserve area north of Paimio.

Local detailed plan

At present there is no local detailed plan in force for the Paimio Hospital area.

The Land Use and Building Act of Finland

Since the beginning of 2000 the new Land Use and Building Act has been in effect in Finland, which steers planning and building. The general aim of the act is to organize the use and building of areas so that the prerequisites for a good environment are created as well as ecologically, economically, socially and culturally-sustainable development. One aim of the land use planning is to promote the beauty of the built environment and the conservation of cultural values. The content requirements of the local detailed plan state, among other things, that the built environment and the natural environment must be preserved and their special values must not be destroyed (Publication *Reform in the Land Use Planning System*. Ministry of the Environment. Helsinki 1999. See separate appendix).

The planning system in Finland has three stages. National and regional goals are expressed in regional land use plans, which are the only plans that need to be submitted for government approval. These regional plans are prepared by the 19 regional councils, which consist of the representatives of local authorities. The plan is ratified by the Ministry of the Environment.

The regional plan defines in general terms the land use of the area from the point of view of the region. It does not take a stand with regard to the building density or the exact location. The goal of the regional plan is to ensure the functionality of the overall communal structure and the preservation of the landscape values. The regional land use plan is implemented through master plans and local detailed plans as well as different projects, usually building projects.

The master plan steers land use for one particular municipality. It is prepared and approved by local authorities, but such that the Regional Environment Centres supervise the preparation stages and see to it that national goals are taken into account.

The local detailed plan regulates building and the structure of the townscape on a local level. Local authorities draw up and approve the local detailed plans.

Apart from these levels, the central government has the opportunity to define goals linked with land use from a national point of view, for instance with regard to cultural environments of national importance.

5.e Property management plan or other management system

Turku University Central Hospital is responsible for the maintenance of the buildings in hospital use. The buildings are repaired in accordance with good principles and good planning practice. All buildings in the hospital area except for the Rose Cellar are currently in hospital use.

The preservation of the Paimio Hospital and its surrounding area, as well as its special character and cultural heritage has been secured by the Building Protection Act. The owner of the building, Turku University Central Hospital, discusses all changes and queries with the National Board of Antiquities. Long-term co-operation between these two parties has been going on already for 30 years.

The National Board of Antiquities has, in accordance with the building protection decision, the responsibility for monitoring the protection of the site. The National Board of Antiquities oversees all alterations and repairs, making sure that they are carried out in accordance with the protection stipulations. The work is monitored by a delegated person. The National Board of Antiquities grants funding for renovation work not linked with the hospital activities.

The protection stipulations encompass the preservation of the building's exterior, the original interiors, the building structures, building parts and remaining fixed furniture and fittings, including the original lamps and details. Original colours and surface treatments must be used in repairs.

The stipulations state that the protected buildings and their surroundings must be maintained and conserved in accordance with their architectural and cultural-historical value. The buildings must be used so that their cultural-historical value is not endangered and the use must serve

Fig. 58. Third floor corridor of the patients' wing.

Fig. 59. The surgical wing, built in the 1950s.

the hospital function or a function which is in concordance with the original function. The repairs or alterations carried out must be in concordance with the architectural value of the site and approved by the National Board of Antiquities. The National Board of Antiquities has the right to issue more detailed guidelines about the application of the building protection stipulations and grant minor exceptions from them.

Patient treatment will continue at Paimio Hospital for the foreseeable future, and specialist knowledge of certain fields of medicine (such as rheumatism and pulmonary diseases) is concentrated in this hospital. Rehabilitation, as a separate sector, follows the tradition of the 'long-term' treatment of patients at Paimio Hospital. Aalto himself had described the hospital as a medical instrument, and it could be said that it still functions as such today.

Paimio Hospital undergoes continuous upkeep as part of the normal annual running maintenance. This includes the upkeep of external and internal surfaces and the maintenance repairs, as well as the re-painting (colours and surface treatments) of surfaces at certain intervals. The question of principles linked with such ongoing work is discussed with the National Board of Antiquities and the consultant architect within the framework of the protection stipulations. The National Board of Antiquities follows the goals and spirit of the protection stipulations in all repairs and alterations. All alterations must be approved by the National Board of Antiquities.

Fig. 60. The mechanism for opening the large windows in the dining hall.

All plans for repairs and alterations, which most commonly are due to changes in use of internal spaces, are dealt with through a single architects' office in order to ensure continuity. After the Alvar Aalto office, the office responsible for the planning has been Architects Laiho-Pulkkinen-Raunio.

The tradition of close cooperation, which began between architect Elissa Aalto of the Alvar Aalto office and a representative of the National Board of Antiquities, architect Maija Kairamo, still continues today, with architect Tommi Lindh, currently acting as the representative of the National Board of Antiquities..

Long-term planning has to take place in cooperation with different parties: the owner and various authorities. In this regard, the future visions and strategies of Turku University Central Hospital have a central position. A specific maintenance and repair plan must be drawn up for the Paimio Hospital.

Fig. 61. The main entrance canopy.

Fig. 62. The mechanism for keeping the dining hall window open.

5.f Sources and levels of finance

Paimio Hospital is owned by Turku University Central Hospital (TYKS), which also is responsible for financing the medical treatment undertaken at the hospital. The finance also covers the maintenance and repair of the building. The activities of TYKS thus cover the upkeep of the "hospital instrument".

The National Board of Antiquities targets restoration funds for the renovation of buildings protected by the Building Protection Act. In the Paimio Hospital grounds this covers particularly those buildings that are not in hospital use, such as the Rose Cellar (the former morgue), which was granted 9000 Euros for the commencement of its renovation in 2004.

The Finnish Forest Research Institute (METLA) oversees the nature maintenance of the surrounding forest area, which is under its management.

There is separate funding in the budget of the Ministry of Education for World Heritage Sites, all in all 250,000 Euros annually. This funding can cover the maintenance, repair and planning costs for those parts not covered by the normal hospital activities.

Fig. 63. The lifts in the main entrance hall.

5.g Sources of expertise and training in conservation and management techniques

The National Board of Antiquities is an expert body responsible for protection and restoration issues in Finland. The specialised knowledge of the Alvar Aalto Foundation, the Alvar Aalto Museum and the Alvar Aalto Academy as the preservers of the Alvar Aalto architectural heritage is also available. The parties coordinate research and other activities linked with Aalto's architecture. The Alvar Aalto Foundation has compiled an extensive amount of archive material: extensive drawing material reaching up to the 1980s as well as other written material.

Apart from the previously mentioned bodies, the expertise of the Museum of Finnish Architecture is also available.

The task of the architectural consultancy for the Paimio Hospital is concentrated in a single office, whose architects have many years experience.

The work of Alvar Aalto is studied in Finnish universities in departments of architecture and art history. Also, an interest in the restoration of 20th century architecture has arisen in recent years. The analysis of the concrete of the Rose Cellar (in the report "Historiallisten betonirakenteiden korjaus" [Repair of historical concrete structures], 2003) is an example of technical research concentrating on building materials. This kind of extensive research is useful also for the Paimio Hospital.

On the international front, Finland has been among the group of countries which has actively engaged itself in the study of the problematics of modern architecture. The National Board of Antiquities, Helsinki University of Technology and the Alvar Aalto Academy have, in cooperation with ICCROM, organised two building protection and restoration courses dealing with modern architecture. It is possible to use similar knowledge and specialization also for dealing with the restoration issues of Paimio Hospital.

Fig. 64. The original patients' communal space, which is nowadays used as a lecture hall and devotion room.

5.h Visitor facilities and statistics

Paimio City Tourist Information Office coordinates organised visits to the Paimio Hospital. These take place annually twice a day from June to August. During the visits, visitors get to see the most central interior spaces and the roof terrace, but without disturbing the daily routines of patient treatment. It would not be possible to increase the number of visitors or the size of the groups from the present number. There are no restrictions on walking in the hospital grounds, and it does not seem to cause any problems to the functioning of the hospital. Visitors can also visit the hospital outside the organised tours. The number of these individual visitors is estimated to be 500 a year.

About 2500 people partake in the guided tours annually. For the City of Paimio the hospital is a central tourist sight. The visitors are allowed to use hospital services, such as the cafeteria, during its opening hours.

5.i Policies and programmes related to the presentation and promotion of the Property

Paimio Hospital was included on Finland's official tentative list of World Heritage sites in January 2004.

The expert workgroup appointed by the Nordic Council of Ministers has proposed that Paimio Hospital be included on the tentative list of World Heritage sites. The workgroup considered Paimio Hospital to be one of the most renowned representatives of the functionalist ideals of its time. It is also a representative of its time of the requirements for standardisation. Paimio has a central position in Alvar Aalto's production. He experimented with both new technical solutions and designs for new lamps, furniture and details. Many of these were innovations and have become 'classics'. The Paimio Sanatorium was also a model for later sanatorium designs.

(Workgroup report "Nordic World Heritage. Proposals for new areas for the UNESCO World Heritage List." Nord 1996:31)

The DOCOMOMO Finland workgroup has chosen Paimio Hospital as a building of international importance, and the most important site of Finnish modernism (International docomomo fiche, published 2001).

The Paimio Sanatorium has been included in the EU-funded Culture 2000 "Hospital Heritage" project. This was comprised of hospital buildings from the 13th century to the time after the Second World War. The Hospital Heritage publication describes Paimio as: "an astonishing example of modern environmentalist architecture, extremely in advance for its time".

The Paimio Sanatorium is presented in numerous publications. A selection of literature and publications in English has been compiled under Section 7 of the World Heritage Proposal.

The Alvar Aalto Foundation produces publications on Aalto's production, including material concerning the Paimio Hospital. Together with the Alvar Aalto Foundation, the Alvar Aalto Academy has begun to publish monographs presenting Aalto's architectural production in its entirety. The monograph on the Paimio Sanatorium is currently in preparation, and is due for publication in 2006.

A web exhibition on the Paimio Sanatorium was opened on the Alvar Aalto Museum web pages in 2004: www.alvaraalto.fi/alvar/buildings/paimio

The Alvar Aalto Museum has published a booklet titled "Paimio 1929-33". The Paimio Sanatorium plays a prominent role in the City of Paimio tourist information.

Fig. 65. Nurses in the corridor of the patient wing in the 1930s.

5.j Staffing levels

The National Board of Antiquities (NBA) is responsible for the heritage monitoring of the Paimio Hospital. The NBA has a heritage supervisor who monitors the interventions in the building and surrounding area. The architectural consultant tasks have been concentrated in a single architects' office, Architects Laiho-Pulkkinen-Raunio.

The hospital employs its own maintenance staff, which is responsible for maintenance and repair works. For more extensive repairs outside contractors are hired.

The Finnish Forest Research Institute (METLA) has staff, with its own specialised skills, which looks after the nature maintenance of the forest area under its management.

Fig. 66. A view out to the immediate surroundings of the hospital.

Fig. 67. Still today the view from the roof terrace is of a lush landscape.

6. Monitoring

6.a Key indicators for measuring state of conservation

The basis for the evaluation of the degree of preservation of Paimio Hospital is the preservation of universal values. These are:
- the use of the hospital buildings
- the architectonic form and materials of the buildings (the restoration and repair interventions)
- the hospital surroundings

The use of Paimio Hospital as a hospital

With regards to the hospital buildings, the preservation of the original/present use is of central importance. As things presently stand, Paimio Hospital will continue to function as a hospital. Important changes in use will immediately affect the need to convert the internal spaces of the buildings.

The National Board of Antiquities (NBA) monitors the situation at Paimio Hospital in terms of its function as a hospital by keeping close contacts with Turku University Central Hospital.

The repair of the buildings

The repair of the buildings must be such that their universal value is preserved. The repair interventions must also support the ongoing use of the buildings as a hospital.

It is possible to consider restoration interventions in the hospital buildings when the technical systems of parts of the building come to the end of their lifespan. For example, a new solution is being sort for the suspended ceilings of the corridors of the patient wing in connection with the next repair work to the ventilation ducts.

Also, for example, when the main entrance canopy is due for repair, consideration will be given to restoring its thickness to the original dimensions. The restorations must be justified and always carried out using original drawings, photographic material and documentation carried out on site.

The Rose Cellar (morgue/chapel), which is no longer in use, will also undergo restoration. It is due to be restored to its original appearance in 2010.

The other technical buildings in the hospital area, such as the pumping station and water purification plant, are maintained and repaired as necessary.

The best experts in the field are always used in the planning and building work. All work carried out at the hospital is supervised by the NBA. The repair plans for the hospital buildings are sent to the NBA for a statement (in accordance with the Building Protection Act). The NBA directs and monitors the implementation of the work.

The hospital surroundings

At the present moment, an inventory is being carried out of the vegetation (trees, bushes and other plants) in the near vicinity of the hospital. A condition survey and maintenance plan for the trees is currently being drawn up. The inventory and condition survey will be reassessed every 5 to 7 years.

An inventory is currently being compiled of the water fountains and their infrastructure, together with a restoration plan (timetables and implementation). External funding is being sort for the project. The aim is for the restoration to be carried out by the year 2012.

The detail planning (the development plan) for the proposed World Heritage Area and its buffer zone is being monitored by the NBA. The NBA is a party in all the detail planning projects concerning the area, the goal being to ensure the preservation of the integrity of the site.

The Finnish Forest Research Institute (METLA) is responsible for the nature maintenance of the forest area under its management and keeps the NBA informed of developments.

The periodic reporting on the Paimio Hospital

The NBA monitors the changes occurring in the hospital area and documents (through photography) the repairs/alterations. The data is stored in the NBA Department of Monuments and Sites archives.

A periodic reporting concerning the interventions and alterations (detail planning, repairs, restorations, and environmental maintenance interventions) is drawn up every 5-10 years. The reporting also assesses the degree of preservation of the authenticity and integrity of the site. The NBA is responsible for compiling the periodic reporting.

6.b Administrative arrangements for monitoring Property

National Board of Antiquities
P.O. Box 169, FIN-00511 Helsinki
Tel. +358 9 40501
Fax. +358 9 4050 9420

6.c Results of previous reporting exercises

Architects HNP Heikinheimo-Niskanen-Pietilä compiled a building historical report on Paimio Hospital in 2000, which comprised (apart from the building history) of an inventory of the most important interior spaces, including details and furniture and fittings. With regards to other buildings and their surroundings, the data about original plans and the present situation were compiled. The report summary mentions that the aim is to produce a more detailed inventory of the hospital surroundings.

Fig. 68. The end facade of the patients' sun balcony wing.

Fig. 69. The stackable dining hall chairs.

7. Documentation

7.a Photographs, slides, image inventory and authorization table

Photographer Soile Tirilä (NBA) photographed Paimio Hospital in the year 2000. The photographic material has been compiled on a CD. The National Board of Antiquities transfers right of usufruct concerning the photographs of the Paimio Hospital exclusively to UNESCO. The acquiring party is neither allowed to forward the work to a third party nor alter the work.

Appendix 1: Image inventory

7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the Property

Appendix 2: Protection of Buildings Act

7.c Form and date of most recent records or inventory of Property

Architects HNP Heikinheimo-Niskanen-Pietilä compiled a building historical report on Paimio Hospital in 2000.

Current drawings, in CAD format, by architects Laiho, Pulkkinen & Raunio, Kauppiaskatu 4 B, FIN-20100 Turku, Finland.

7.d Address where inventory, records and archives are held

National Board of Antiquities,
Department of Monuments and Sites,
PL 169,
FIN-00511 Helsinki, Finland

Alvar Aalto Foundation,
Tiilimäki 20,
FIN-00330 Helsinki, Finland

Alvar Aalto Museum,
PL 461,
FIN-40101 Jyväskylä, Finland

Museum of Finnish Architecture,
Kasarmikatu 24,
00130 Helsinki, Finland

Paimio Hospital Archives,
Alvar Aallontie 275,
FIN-21540 Preitilä, Finland

7.e Bibliography

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Fig. 70. The spot lamp in the patients' room.

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Date

Tanja Karpela
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Appendixes

Appendix 1

Image inventory and photograph authorization form

Photographer Soile Tirilä (NBA) and Lentokuva Vallas Oy photographed Paimio Hospital in the year 2000. Following photographs have been compiled on a CD (numbers refer to the picture numbering in the presentation).

Fig. 1. An aerial view of the hospital area from the southwest.
Fig. 2. The patients' sun balcony wing.
Fig. 8. The concrete overhang of the rooftop sun deck.
Fig. 11. A view towards the main entrance.
Fig. 13. The junior physicians' row house.
Fig. 14. The dining hall with its original furniture.
Fig. 19. The Paimio Chair, laminated birch frame and lacquered plywood seat.
Fig. 27. A view from the central wing towards the chimney of the maintenance wing.
Fig. 28. The main foyer of the hospital.
Fig. 30. The main entrance courtyard of the hospital.
Fig. 32. The present day museum room with its original furniture.
Fig. 40. The original reading room, nowadays used as a cafe.
Fig. 43. The head physician's house, nowadays used as a kindergarten.
Fig. 45. The main staircase.
Fig. 52. The main staircase as a part of the rear facade.
Fig. 53. An office serving the patients' wing.
Fig. 67. The view from the roof terrace.
Fig. 68. The end facade of the patients' sun balcony wing.
Fig. 69. The stackable dining hall chairs.
Fig. 70. The spot lamp in the patients' room.

Photographers
Lentokuva Vallas Oy (Fig.1.)
Soile Tirilä / National Board of Antiquities, Department of Monuments and Sites

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Appendix 2

PROTECTION OF BUILDINGS ACT

The following is enacted in accordance with the decision of Parliament:

CHAPTER I
The Scope of the Act

Section 1

With a view to preserving the national cultural heritage, buildings, groups of buildings and constructed areas connected with cultural development or historic events shall be protected in accordance with the provisions of this Act.

Section 2

For the purposes of this Act, the objects to be protected are buildings, groups of buildings and constructed areas which are of special cultural historic significance as regards the history of architecture, architecture, construction techniques or special environmental value, or which are of special historic significance because of the use, or events connected with the use of the building, or which are unique or representative of a style. In this Act the expression "building" shall include any interior fixtures of a building to be protected.

Protection of a building within the meaning of this Act may also apply to a part of a building, to the interior fixtures of a building and to a bridge, well or any other similar structure as well as to a park adjoining a building or to any other corresponding area formed by construction or planting.

What is hereinafter prescribed as applying to buildings shall correspondingly apply to other objects of protection as defined under Subsections 1 and 2.

Section 3

Protection of building in areas covered by a town plan or a rural area development plan and in areas which are under construction ban for purposes of planning is prescribed by the Building Act (37/58).

Notwithstanding the provisions in Subsection 1 of this Section, actions defined under this Act may be undertaken also in areas defined under the said Subsection 1, except that a preservation under may be made only where the protection of a building is not possible under the Buildings Act; where preservation cannot be sufficiently secured under the provisions of the Buildings Act; or where the building is of outstanding national importance; or where there are other special reasons for a preservation order.

Section 4

Buildings which are immovable ancient monuments come under the Ancient Monuments Act (635/63).

The protection of ecclesiastical buildings is prescribed by the Church Act (635/64).

The protection of State-owned buildings is prescribed by a Decree.

CHAPTER 2
Placing Buildings under Protection

Section 5

The decision to place a building under protection shall be taken by the relevant Provincial Office. The Provincial Office may take a preservation order if the building has cultural historic value under Subsection 1 of Section 2 of this Act.

The decision to place a building under protection shall be submitted for the confirmation of the Council of State. The Council of State shall deal with the matter urgently.

Section 6

The decision by a Provincial Office to place a building under protection shall contain the necessary orders for ensuring the preservation of the cultural historic value of the object to be protected.

The preservation orders may prescribe:

The maintenance of the object in the state required by the preservation;

The use of the building to ensure that its cultural historic value is not endangered; and

Reconstruction of the building and restricting of any alterations and additions to the building so that they do not endanger the purpose of the protection.

A preservation order may grant the National Board of Antiquities and Historical Monuments the right to issue more detailed instructions on the application of the preservation order and to grant minor exceptions to the preservation orders.

Section 7

Protection of a building may be initiated in the Provincial Office by the Provincial Office itself, or by a petition made to the Provincial Office.

A petition for the protection of a building may be presented by the owner of the building, by a Government authority, by a joint municipal regional planning authority, by a joint municipal regional planning authority or by the municipality in which the building is situated as well as by the Provincial Union and by a registered association active in the locality where the building is situated.

The petition shall be in writing and shall contain information about the building, its location and its owner. The petition shall be justified in detail.

Section 8

Before taking a decision in the matter, the Provincial Office shall provide an opportunity to be heard in the matter to the owner and, if the owner is not the occupier, to the occupier of the building or real estate. Similarly, the Provincial Office shall consult the municipality in which the building is situated as well as the National Board of Antiquities and Historical Monuments.

Where possible, the preservation order shall be drawn up in agreement with the owners and occupiers of the building and real estate as well as with the owners and occupiers of the adjoining land.

Section 9

When the protection of a building has been initiated, and if the object in question may be an object of protection covered by this Act, the Provincial Office shall prohibit the undertaking of any measures that may endanger the cultural historic value of the building.

The prohibition shall enter into force when service of the decision on it has been effected and shall remain in force until a legally valid decision in the protection issue has been taken, unless an appellate authority orders otherwise.

The relevant Provincial Office shall resolve the matter of protection within two years of the date on which the prohibition order has been issued.

Section 10

The provisions of chapter 2 relating to the placing of a building under protection shall be observed, where applicable, when the protection order is to be amended or annulled.

CHAPTER 3

Compensation and the Right to Redemption

Where, owing to a preservation order made in accordance with a protection decision, the owner of the building cannot use the building in the ordinary manner or in a manner providing reasonable benefit, he shall be entitled to full compensation from the State for any inconvenience or damage he has incurred which is not merely of slight significance.

Where the owner must undertake special measures under the preservation order with a view to maintaining the cultural historic value of the building, the costs incurring from such measures shall be compensated out of State funds. In the assessment of liability for compensation and the amount of compensation, however, no expenses incurred as a result of the maintenance liability prescribed by the Buildings Act or otherwise as a result of ordinary maintenance of the building shall be included in the amount to be compensated.

The provisions of Subsections 1 and 2 of this Section regarding the right of the owner of the building to compensation shall also apply to an occupier comparable to an owner and to any person holding lease or usufructuary rights as regards the building or any special right comparable to these as they apply to an owner. However, the State's liability for compensation does not apply in respect of a municipality.

Section 12

The National Board of Antiquities and Historical Monuments and any person who considers himself entitled to compensation under Section 11 shall endeavour to come to an agreement on the amount of compensation. The agreement shall be submitted in writing for the confirmation of the Council of State.

In default of agreement on compensation, application for compensation shall be made within two years of when the decision on which the claim for compensation is based becomes legally valid. In default of an application within the time prescribed the right to compensation if forfeited. The provisions of the Redemption of Real Estate and Special Rights Act (603/77) shall apply to the determination of the liability for compensation and the award of compensation. Subject to the provisions of the present Act, the foregoing provisions shall also apply to the amount of compensation.

In the case of changed circumstances the State or the owner or occupier of the building has the right to submit the question of the right to compensation for reconsideration under Section 11 of this Act. The liability for compensation under changed circumstances, however, shall not include any loss or expenses which are to be compensated in accordance with an earlier legally valid decision.

Section 13

The Council of State may, whenever public interest demands it, authorize the State or a municipality to acquire a building referred to in this Act with the necessary adjoining land regardless of whether or not it has been placed under protection. The procedure of redemption shall comply with the provisions of the Redemption of Real Estate and Special Rights Act as regards the compulsory purchasing order as well as the grounds for compensation and the compensation order.

CHAPTER 4

Protection Safeguards

Section 14

The provincial Offices, the National Board of Antiquities and National Monuments and the municipal building board shall supervise compliance with the provisions of this Act.

Section 15

In the alienation of a building which has been placed under protection in or with regard to which protection is pending, the owner of the property must give notice to the recipient of the property of a preservation order in force or pending by way of a written clause in the deed of conveyance in another certifiable manner.

Section 16

Any person who has altered or moved or demolished a building contrary to the provisions of this Act or contrary to a prohibition order made under this Act can be obliged by the Provincial Office to undertake the measures necessary for the restoration of the building by a specified date.

The provisions of the foregoing Subsection 1 shall apply correspondingly in a case where the owner has neglected the maintenance required for the protection of the building.

Where the obligation defined under Subsections 1 and 2 of this Section is disregarded, the Provincial Office is authorised to order works to be undertaken under the aforesaid subsections. The costs incurring in such works shall be paid in advance from State funds and they shall be recovered as decreed in the Recovery of Taxes and Fees by Distraint Act (367/61).

Section 17

The State can undertake the necessary maintenance work, at State expense, in buildings placed under protection.

Section 18

Whenever necessary for ensuring compliance with and application of the law, the appropriate authorities shall have the right to enter any building placed under protection or in respect to which protection is pending in order to carry out the necessary inspections and studies.

The owner or occupier of the building shall be given not less than three days' notice of the proposed inspection or study. If the authority in question is denied entry to the building said authority shall turn to the Provincial Office for the executive assistance referred to in Section II of the Provincial Office Decree (188/55).

Section 19

The National Board of Antiquities and Historical Monuments, within the appropriations of the national budget, may grant aid to the owner of a building placed under protection for maintenance or improvement of the building or its surroundings.

Aid may be granted to the owner of a building of cultural historic importance even when the building in question has not been placed under protection under this Act. The aid shall be granted on condition that the recipient contracts to preserve the building in the state defined by the National Board of Antiquities and Historical Monuments.

It may be a condition for granting aid that public has access to the building or a part thereof, as agreed separately. If the building is placed under protection, the conditions must be in accordance with the protection order.

Section 20

When a protection issue is pending in the Provincial Office, or when a decision on protection is legally valid, or when protection is legally repealed, the Provincial office shall give notice of it to the appropriate judge, who shall enter it in the register of mortgages. This entry is permanent without renewal. The notice must specify the real estate on which the building is situated.

Section 21

Whenever a building placed under protection is damaged or destroyed, the owner of the building shall immediately give notice of it to the Provincial Office. The Provincial Office shall immediately give notice of the matter to the National Board of Antiquities and Historical Monuments.

A Provincial Office shall furthermore give notice without delay of the destruction of a building to the judge referred to under Section 20, who on the basis of the notice shall remove the entry on the protection of the building from the register of mortgages.

Section 22

No building which contains, or the interior fixtures of which includes old paintings, writing or architectural decorations may be demolished or altered before the proposed action has been made known to the National Board of Antiquities and Historical Monuments even though the building has not been placed under protection under this Act.

Similarly, the covering of any paintings or writing referred to under Subsection 1 of this Section with plaster or repainting or their destruction by any other means is prohibited, before the National Board of Antiquities and Historical Monuments has been notified of the proposed work.

In cases referred to under the foregoing Subsections 1 and 2, the National Board of Antiquities and Historical Monuments shall be given opportunity to have copies made and photos taken of any paintings, writings and decorations.

CHAPTER 5
Further Provisions

Section 23

The decision of the Provincial Office on a matter regarding the protection of a building may be appealed against to the Council of State.

Any interim prohibition notice issued by the Provincial Office to prevent any action that may endanger the cultural historic value of a building may be appealed against to the Supreme Administrative Court.

Section 24

Subject to the provisions of the preceding sections, any procedures and appeals relating to administrative matters arising from the provisions of this Act come under the provisions of the Administrative Procedures Act (598/82) and of the Appeals Relating to Administrative Matters Act (154/50).

Whoever violates any prohibition or order contained in this Act or issued in accordance with this Act shall be punished for violation of the provisions of the Protection of Buildings Act by a fine or by a maximum of six months' imprisonment unless an applicable and a more severe penalty is prescribed elsewhere in law.

If the act has led to the destruction of a building of particular value or to any other considerable damage to the protection of buildings, and provided that the offence in this or other cases is to be considered serious and taking into account all the circumstances leading to the offence as well as the entirely of the circumstances evident in the offence, the offender shall be sentenced for a serious violation of the Protection of Buildings Act to a maximum of two years' of imprisonment or to a fine.

The provisions of Chapter 2, Section 16 of the Penal Code shall apply to the forfeiture of any financial gain arising from and any instrument or property used in the perpetration of any offence defined under Subsections 1 and 2 of this Section.

Section 26

Further provisions relating to the application of this Act shall be enacted when necessary by Decree.

CHAPTER 6
Entrance into Effect

This Act shall take effect on the first of July, 1985. It shall repeal the Protection of Buildings of Cultural Historic Importance Act of 27 November 1964 (572/64).

Any measures required for the enforcement of this Act may be undertaken even before the entry of this Act into effect.

Section 28

The provisions of this Act shall apply to matters relating to the protection of buildings initiated before the entry of this Act into effect.

A decision to place a building under protection taken under the former Act shall remain in force after this Act takes force, and the provisions of this Act relating to the protection of buildings shall apply to the said building.

Done in Helsinki on the 18 of January, 1985

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