

The Functionalist Awakening of Alvar Aalto in the Kinkomaa Tuberculosis Sanatorium. Each thing in its place and a distinctive aesthetic for each one.

Cecilia Ruiloba Quecedo

Profesor Asoc. Dpto. de Teoría de la Arquitectura y Proyectos Arquitectónicos
Escuela Técnica Superior de Arquitectura, Universidad de Valladolid
47014 Valladolid
España
cruiloba@arq.uva.es

Publisher Alvar Aalto Museum
ISSN-L 2323-6906
ISSN 2323-6906

www.alvaraalto.fi
www.alvaraaltoresearch.fi

Alvar Aalto, in an interview in 1950, said: “What an architect says doesn’t mean a damned thing” (Schildt 1998:8); as far as he was concerned, only his drawings and his buildings had value. Despite these words, his projects and his writings exhibit a great coherence which we will attempt to show in this paper. We will analyse two sanatorium projects: the Kinkomaa sanatorium, which synthesises the end of Alvar Aalto’s first architectural phase, the one prior to his trip to Paris; and the Paimio sanatorium project, which marks the beginning of his period of maturity. Both projects are key elements in Alvar Aalto’s career, representing his first brush with functionalism and organic architecture, which are omnipresent in the rest of his projects and works; furthermore, through his drawings they configure a graphic handbook of his reflections on human beings and architecture.

In July 1927 Alvar Aalto participated in the tender for the Kinkomaa sanatorium in Muurame Kinkomaa, 8 kilometres from Jyväskylä. Aalto’s approach to this tender, according to Göran Schildt, “(...) was the first to clearly reveal his “conversion” to Functionalism” (Schildt 1994a:34). This conversion had already been sketched out in an article called “Urbana Culture” published in 1924 after his return from his first trip to Italy with his wife Aino Marsio,¹ in which Aalto tries to structure the centre of Jyväskylä, his city of birth, with the following principle: “To everything its proper place, a setting dictated by its own demands, its own aesthetic. And everything should be connected with the community served by the town” (Aalto 1924: 20).

These same organisational and functional criteria were applied to the Kinkomaa project (Fig. 1), where the programme for the sanatorium is broken down into four independent, interconnected pavilions, three of them arranged around a large empty space. Each pavilion occupies a concrete position, the most suitable for its programme; in addition, each one has a specific form, the one which best corresponds to its activity and is most appropriate for its capacity, giving a different image depending on the use of each pavilion.

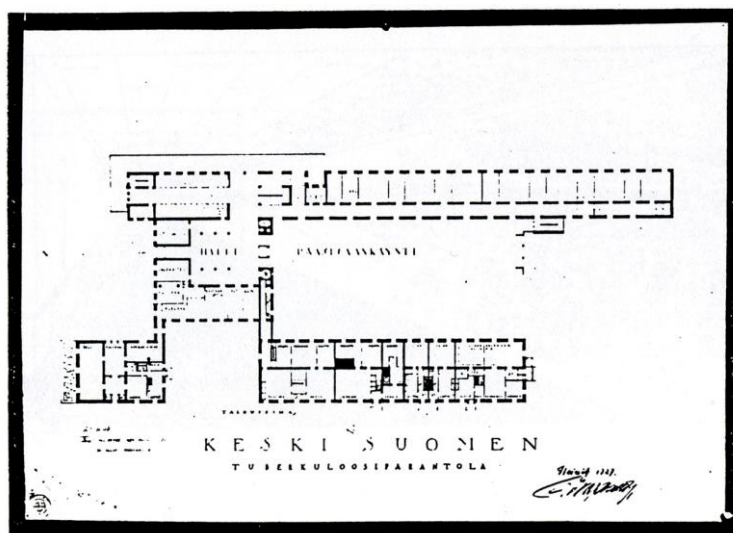


Fig.1. Ground-floor plan. Kinkomaa tuberculosis sanatorium, Alvar Aalto Heinäk (Julio) 1927 (Catalogue: 50/23.3). Göran Schildt (1994) *The Architectural drawings of Alvar Aalto*, vol. 3, New York, Garland, pp. 35.

The pavilion for patient bedrooms is rectangular in shape, long and narrow, and is four storeys high. It is on the southern side, with the bedrooms facing the countryside, with treatment galleries at the south-southeast corner, to encourage absorption of the sun's rays in winter. Next to it is the main access building, with a square floor-plan, which contains the hall, the dining room and the common rooms. It is structured in two volumes, one lower than the other, with two storeys, and on top of it a slimmer one, with a further three floors. A third pavilion, rectangular in shape and almost two storeys high, which houses the offices, the general services and the rooms for sanatorium personnel, is located to the north. It runs parallel to the patient rooms pavilion, forming a "U"-shaped enclosure which encloses a common, open empty space. This space, the most public one in the sanatorium, serves as a meeting place and forms the "public square" of this small city of health which is the Kinkomaa sanatorium; in Aalto's own words: "Nothing does a town greater honor than a well-developed public life and functional public places, not the least of which is the market hall" (Aalto 1924: 20).

The fourth pavilion is home to the residence of the head doctor, is rectangular in shape and just one storey high. This building, together with the main building and the patients' pavilion, marks out a small exterior space, also "U"-shaped, before the rear entrance to the main building which, like an open ante-room, creates a sequential approach from the outside to the inside of the sanatorium. The entrance leads into the hall, which is also the junction of the main access, the patients' pavilion and the connections with the other two, making this a fundamental element in the composition of the sanatorium.

In 1926 in his article, "From Doorstep to Living Room", Aalto states that: "(...) but it is best achieved by correct placement of the hall in relation to the rooms, the yard and the garden. All this, however, should be done with caution" (A. Aalto 1926:54), as is the case with Kinkomaa. Here the hall, a square, hypostyle building, is the central nucleus of the sanatorium which arranges all its component parts.

Alvar Aalto had never before designed a building consisting of parts like this one. Until that point, his projects were compact, or were broken down into isolated pavilions. Like his project for the Alatalo manor House in 1924 or for the Atrium House in 1925, resolved with the use of a unitary volume; or like the Alajärvi Municipal Hospital or the Finnish Parliament House project, both from 1924, consisting of isolated pavilions. In Kinkomaa, on the other hand, the parts are interlinked, forming a single body, which is both compact and fragmented at the same time.

It is precisely this formal configuration which displays a change in his architectural design, moving closer to Functionalism. However, despite this approximation in design, the sanatorium reveals, through the image of some of its pavilions, that there are still links with Classicism in his projects; Aalto himself still maintains that: "(...) we cannot create new form where there is no new content" (Aalto 1928:62).²

To judge by the elevations of the Kinkomaa sanatorium, Alvar Aalto only considers new the content of the pavilions designed for curing patients, to which he gives a more modern image, as we can see in the southern elevation (Fig. 2). Meanwhile, in the doctor's residence and in the common services building which together define the northern elevation (Fig. 3), he keeps a much more traditional image, with a visible gable roof, narrow windows, and a slender tower which resembles the bell tower of a church.³ Alvar Aalto writes: "Our forefathers are still our masters" (Aalto 1922:32); and the contrast and the coexistence of these two fronts in the sanatorium confirm this.

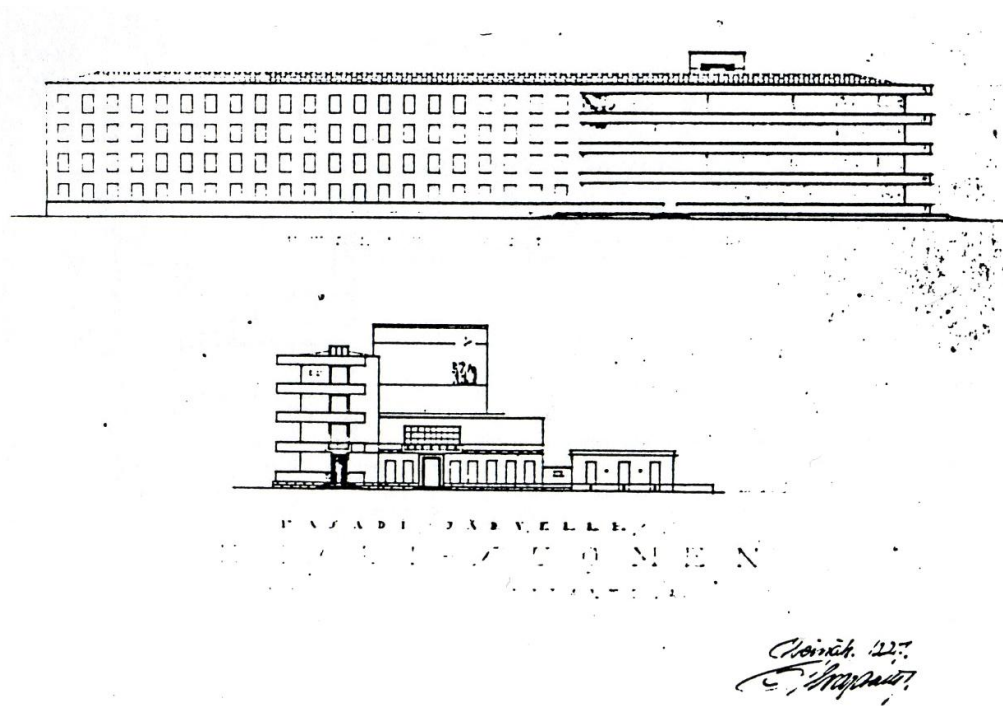


Fig.2. South and lake-side facades. Kinkomaa tuberculosis sanatorium, Alvar Aalto Heinäk (Julio) 1927 (Catalogue: 50/23.7). Göran Schildt (1994) *The Architectural drawings of Alvar Aalto*, vol. 3, New York: Garland, pp. 36.

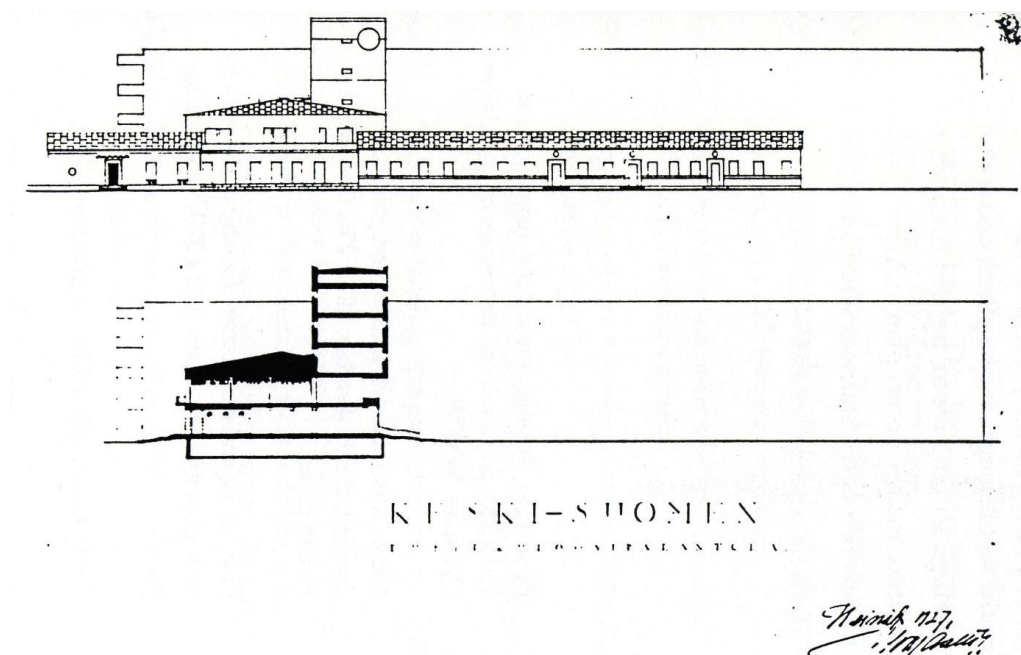


Fig.3. Nord facade and section (detail) of the Kinkomaa sanatorium. Alvar Aalto Heinäk (Julio) 1927 (Catalogue: 50/23.8). Göran Schildt (1994) *The Architectural drawings of Alvar Aalto*, vol. 3, New York: Garland, pp. 37.

Reflected here are his efforts to marry modernity to tradition, in a period when there is widespread rejection of the past; Aalto's intention is to move forward, without forgetting his history. So, just as: "A good painting must have a personal touch, the author's handiwork must be visible; the architectural masterpiece must primarily reflect the prevailing spirit of the age" (Aalto 1921:32).

He longs for the times when an architect was an artist and: "There was but one art in the world, the art of building. Painting and sculpture, in all their various forms, blended into it harmoniously" (Aalto 1921: 31), as shown by the sculpture he adds to the east façade of the main pavilion. However, he is also aware that: "The architect, moreover, must handle the much more demanding technical aspect of his profession, which plays a very important role in his creative artistic work" (Aalto 1921: 32). In fact, the solution adopted by Aalto in the deep, apparently unsupported, terraces of the treatment galleries, described in his drawings, involves a necessary knowledge of the construction techniques of reinforced concrete, which were very innovative at the time.

Nevertheless, it is not the technical aspects, but rather his humanistic and architectural sensitivity which best defines the treatment gallery: "It "symbolizes the open air under the home roof", like the Pompeian house or the English hall (Aalto 1926:52). A drawing in perspective of its inside (Fig. 4), with a representation of the patient lying down, an ample view of the landscape and the roof, is the image which best defines the intention of this project, which looks for an intimate fusion of man and his environment through architecture.

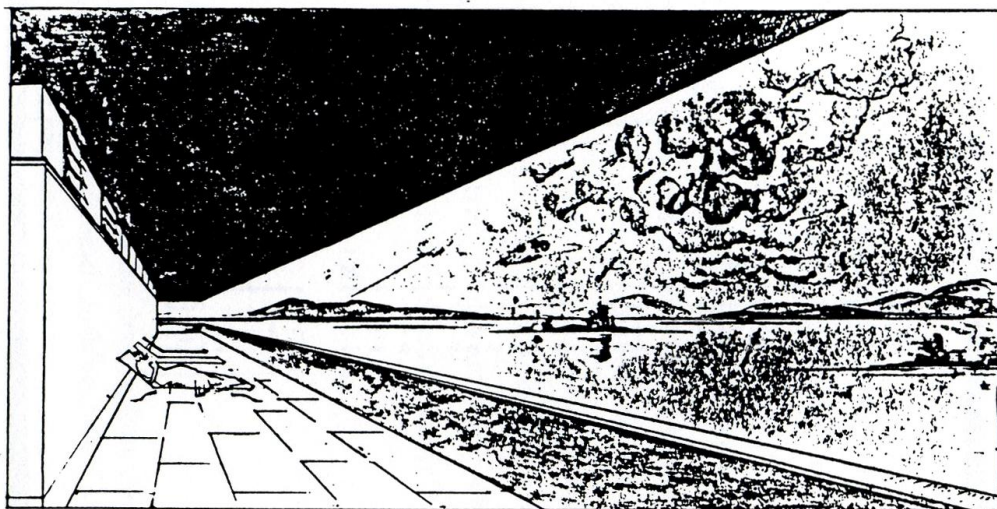


Fig.4. Perspective drawing from a sanatorium balcony. Kinkomaa tuberculosis sanatorium, Alvar Aalto 1927 (Catalogue: 50/23.5.). Göran Schildt (1994) *The Architectural drawings of Alvar Aalto*, vol. 3, New York: Garland, pp. 36.

This characteristic, which is essential in any sanatorium for treating tuberculosis, where the treatment is based on environmental therapies, will be a constant in Aalto's work. In fact, this perspective of the treatment gallery – with the patient, the sanatorium and the lake – is comparable to the image of the painting *Annunciation* by Fra Angelico (Fig. 5) where, according to Aalto: "The trinity of "human being, room and garden" shown in the picture makes it an unattainable ideal image of the home" ⁴ (Aalto 1926:69).



Fig.5. Image of the painting *Annunciation* by Fra Angelico. Göran Schildt (1998) *The Alvar Aalto. In his own words*, New York: Rizzoli International, pp. 30.

In another drawing for the Kinkomaa project, the panoramic view of the sanatorium from the lake (Fig. 6), we can see another fundamental aspect in Aalto's architecture, his attempt to embellish the landscape with architecture. In his text "Architecture in the Landscape of Central Finland" published in 1925, Aalto states: "As the steamboat glides across Lake Päijänne or Keitele, (...) I while away the time by making corrections in my mind to the buildings we pass. Often surprisingly small changes will suffice: I just alter the roofs of the houses a little (in Central Finland roofs should be as flat as possible)" (Aalto 1925:22). In the project for the Kinkomaa sanatorium, next to Lake Päijänne, he fulfils this desire.

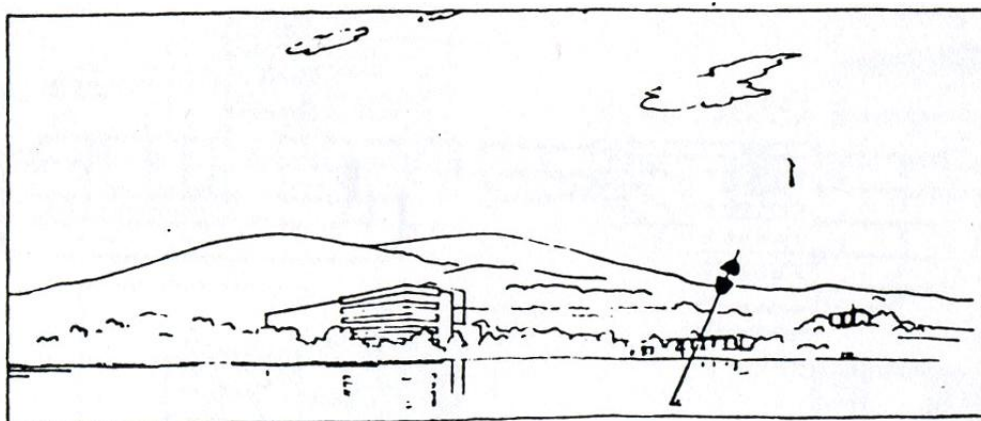
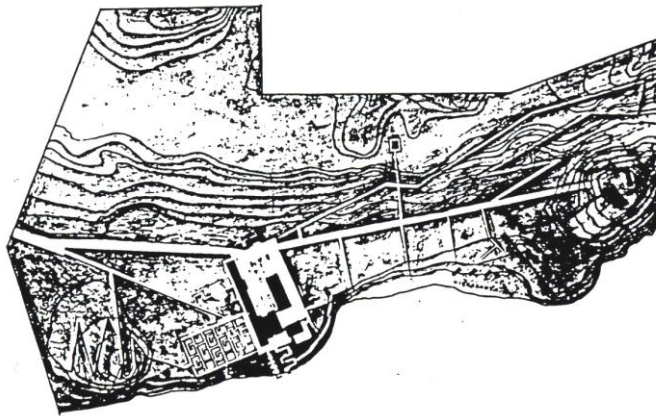


Fig.6. Perspective drawing from the lake. Kinkomaa tuberculosis sanatorium, Alvar Aalto 1927 (Catalogue: Fragment 50/23.1). Göran Schildt (1994) *The Architectural drawings of Alvar Aalto*, vol. 3, New York: Garland, pp. 35.

The sloping roofs of the highest pavilions, which look out over the forest and can be seen from the lake, are hidden behind barriers; furthermore, the terraces of the treatment galleries break the corner of the prism and, with their successive repetition give a horizontal rhythm and a more dynamic image to the building. These fleeting elements, represented in the drawing in perspective, make the terraces appear oblique and at the corner sketch a break, the lines of which resemble the profile of the mountains drawn by Aalto in the background, thus emphasising the forms of the landscape through the forms of the building; in his own words: "Our buildings should not merely meet one or two aesthetic norms; they should be placed in the landscape in a natural way, in harmony with its general contours" (Aalto 1925:21).

However, the apparent naturalness of this image contrasts with the rigidity with which the pavilions of the Kinkomaa sanatorium are implemented, arranged orthogonally on an artificial platform (Fig. 7).



*Fig.7. Site Plan. Kinkomaa tuberculosis sanatorium, A. Aalto, 1927 (Catalogue: Fragment: 50/23.1).
Göran Schildt (1994) The Architectural drawings of Alvar Aalto, vol.3, New York: Garland, pp. 35.*

In the Paimio sanatorium, on the other hand, the cross-section of the pavilions adapts to the orography of the land, thus creating more attractive and natural surroundings (Fig. 8); as Aalto says: "The fundamental problem of architecture is not that of attaining formal perfection, but the task of creating an attractive environment with simple means in harmony with our biological needs" (Aalto 1954:39), like the one Aalto creates by championing, for the first time in his career, an architecture which is more topological⁵ than morphological, moving closer to the forms of organic architecture.

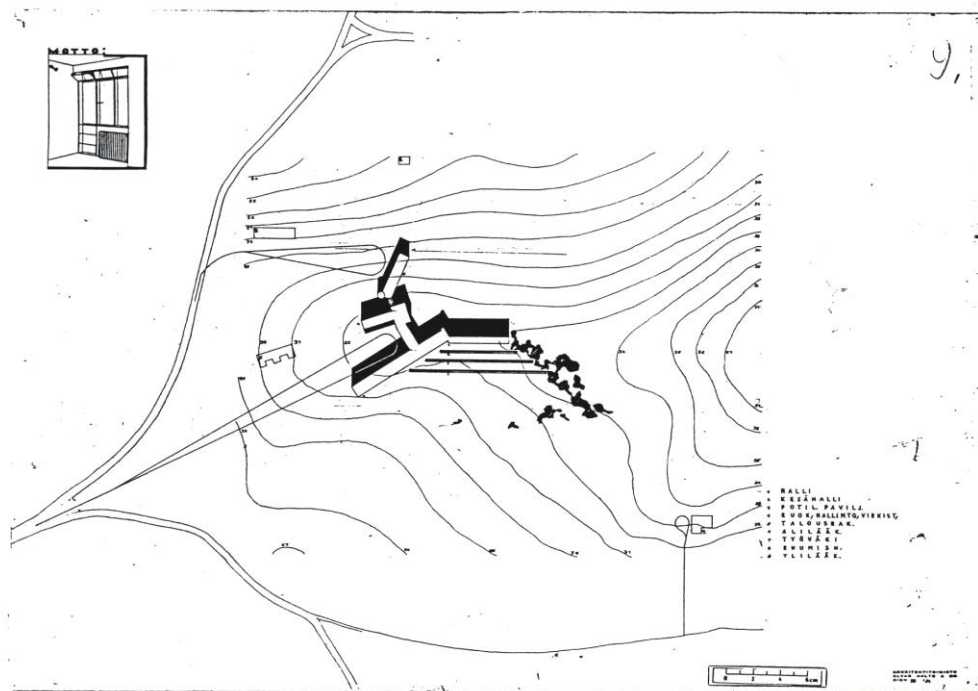


Fig. 8. Site Plan. Paimio tuberculosis sanatorium, A. Aalto, project of competition, 1929 (Catalogue: 50/24). Göran Schildt (1994) *The Architectural drawings of Alvar Aalto*, vol. 4, New York: Garland, pp. 137.

However, not only the cross-section of the Paimio pavilions shows this approximation; principally it is described by the heteroclitic grouping of them in the floor plan.

A detailed study of the sketches made by Aalto as a precursor to the Paimio,⁶ project shows that the architect starts out from a very defined morphological model, that of compact Germano-Swiss sanatoria with a “T”-shaped⁷ floor plan, and then uses successive transformations which seek to provide the best possible solution to each part of the programme. This ends up defining an organic and irregular floor plan composition which moves away from the initial model (Fig. 9 and Fig. 10).

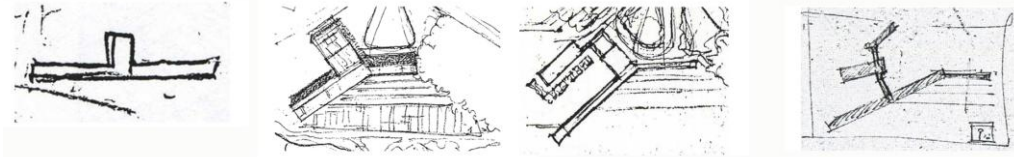


Fig.9. The formal evolution of the floor plan for the Paimio sanatorium during the project process. A. Aalto sketches (Catalogue: Fragments 50/642, 50/638, 50/644b). Göran Schildt (1994): The Architectural drawings of Alvar Aalto, vol. 4, New York: Garland, pp. 142,144,145.

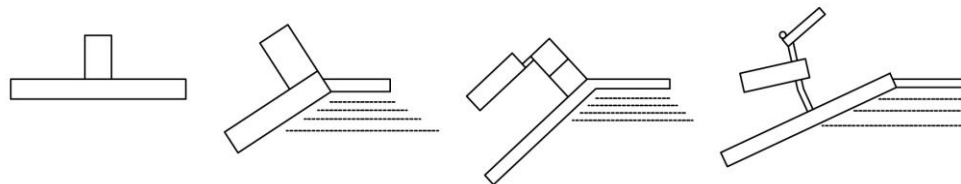


Fig.10. The formal evolution of the floor plan for the Paimio sanatorium during the project process. Drawings made by the author.

The formal evolution of the floor plan for the Paimio sanatorium during the project process illustrates perfectly the link between biology and architecture which Alvar Aalto describes in his article “The trout and the stream”, published in 1948: “I would like to add as my personal, emotional view that architecture and its details are in some way all part of biology. Perhaps they are, for instance, like some big salmon or trout. They are not born fully-grown; they are not even born in the sea or water where they normally live” (Aalto 1948:108-109).

During the Paimio project process, the pristine model of a “T-shaped” sanatorium grows extremities, like the body of a larva becoming an adult, changes shape and adjusts its position until it reaches its definitive configuration.

Furthermore, in the Paimio sanatorium the dichotomy that we see in the Kinkomaa sanatorium, between tradition and modernity, disappears; with Paimio, all the pavilions have the same rationalist image, that of the so-called “International Style”.

In January 1928 Alvar Aalto, in his article “The last Trends in Architecture”, writes: “We might compare a classical statue for a god with a part of some modern machine: both have something of the same aspiration to provide the perfectly refined form for a content with real significance and a resonance of truth in their time” (Aalto 1928:60). Consequently, conflict disappears, now that forms must always be in tune with their time, regardless of the fact that meaning might belong to other periods. During his trip to Paris in the summer of 1928, just before he began to develop the project for the Paimio sanatorium,⁸ Aalto saw this thought materialised in the new architecture of the European vanguards.

The Paimio sanatorium project also served as a method of psychological experimentation, as described by Aalto in his article "The Humanizing of Architecture" published in 1940: "To examine how human beings react to forms and construction, it is useful to use for experimentation especially sensitive persons, such as patients in a sanatorium" (Aalto 1940:103).

Alvar Aalto, aware of the coldness transmitted by rationalist architecture, believed that: "As soon as we include psychological requirements or, rather, as soon as we are able to include them, we will have extended the rationalist working method enough to make it easier to prevent inhuman results" (Aalto 1940:91).

With this aim in mind, in the Paimio sanatorium Aalto carefully studies the lighting, both natural and artificial, analyses the advisability of colour and the textures of walls, ceilings and furniture. He tries to eliminate noise as much as possible, and includes natural forms and elements in the building to create a warm ambience of maximum comfort. He is always very conscious, however, of the patient's visual perceptions and of maintaining his or her privacy.

Because of all these aspects, the Paimio sanatorium can be understood as the result of a process, in which Aalto does not try to obtain an image or a specific form, but instead tries to find a solution for the proposed programme of needs; he deals with both the physical and the psychological needs of the patients, and also tries to emphasise with his architecture the environmental qualities - topographical, plants, climate, light, etc. – of the natural surroundings in which it stands. A theoretically perfect model of how Architecture should be done.

It is precisely about perfection, or rather about imperfection, that Alvar Aalto reflects at the end of his life. He assumes the "human factor"⁹, in other words, the inevitable human error, and describes in a number of his writings and conferences that the way of palliating the consequences of our errors consists of paying attention to man's real values, creating flexible buildings which can be modified and improved over time.

This formal flexibility was clearly considered in the Kinkomaa project with the design of a very open sanatorium consisting of parts which could grow easily or be transformed; and in the Paimio sanatorium, where Aalto rejects a superficial design and attempts to conceive new architectural forms in harmony with nature and man. The result, perhaps, of his instinctive determination to try and reduce the seriousness of his errors, as he says himself: "We may not be able to eliminate error, but what we can try to achieve is that we should all commit as few errors as possible, or better still: benign errors" (Aalto 1972:402).

- ¹ This first trip to Italy had a notable influence on Aalto, as shown by his drawings and the large number of writings in which he alludes to it: "The Hilltop Town" (1924), "Architecture in the Landscape of Central Finland" (1925), "Temple Bath on Jyväskylä Ridge" (1925), "Abbé Coignard's Sermon" (1925), in Göran Schildt, *Alvar Aalto. In his own words*.
- ² The quote goes on to say: "We cannot make a church building as a whole the perfect representation of civilization in 1927; we cannot create modern church architecture in the true sense of the word, since the content (the divine service) for which the form was created is an old tradition with no new characteristic spiritual approach to the pressing problems of our time". The classic image of the Taulumaäki church project, carried out in 1927, demonstrates this theory, whereas the plastic forms of the floor plan and cross-section of the project for the tender for the Vallila church from 1929, or the abstraction of the façade for the project for Tehtaanpuisto church in 1930, reveal a clear change of opinion in this regard. It is worth highlighting the similarity between the front of the Tehtaanpuisto church and the east facade of the sanatorium, which is where one of the accesses is located.
- ³ In a more detailed proposal for the doctor's house, we can even see the presence of Corinthian columns guarding the classical entrance portico.
- ⁴ In the majority of sanatoriums for treating pulmonary tuberculosis, the treatment galleries are located as an extension of the patients' rooms, their homes while they are being treated, making the relationship between the room and nature even more immediate.
- ⁵ According to the description of "topological" given by Christian Norberg-Schulz in his book *Los Principios de la Arquitectura Moderna. Sobre la nueva tradición del siglo XX*, pp.159.
- ⁶ Study drawn up by the author on the basis of the drawings compiled in volume 4 of the collection *The architectural drawings of Alvar Aalto, 1917-1939*, Garland, 1994.
- ⁷ This model of sanatorium with a "T-shaped" floor plan, or aeroplane plan, was very popular, having been used by Jussy and Toivo Paatela in their winning project for the tender for the Kinkomaa sanatorium. Also Erick Bryggman, in his project presented for the tender for the Paimio sanatorium, which was selected by the members of the jury, would use it. In this case Bryggman slightly arches the body of patients' rooms, giving it a convex form. See: Biurrun, F. J., Closa M., Linares A. (1991) *El Sanatorio de Paimio, 1929-1933. Alvar Aalto: la arquitectura entre la naturaleza y la máquina*, pp. 20-23.
- ⁸ The Paimio sanatorium tender was announced in November 1928, with a delivery date of 31 January 1929. A direct influence of this trip on the sanatorium project can be seen in the logo used by Aalto in his presentation for the tender, the drawn image of an L-shaped window, which was going to be the window in the patients' bedrooms. This window takes its inspiration from his friend André Lurçat's design for the Plage-Hôtel, a project which Lurçat had shown to him during his stay in Paris.
- ⁹ See: "The Human Factor", "Speech at the Helsinki University of Technology Centennial Celebration, December 5, 1972" in Göran Schildt, *Alvar Aalto. In his own words*, and "La construcción y planificación de ciudades existentes", in Göran Schildt, *Alvar Aalto de palabra y por escrito*.

Bibliography

- Aalto, A. (1924) "Urban Culture", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Aalto, A. (1926) "From Doorstep to Living Room", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Aalto, A. (1928) "The Latest Trends in Architecture", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Aalto, A. (1922) "Motifs from Past Ages", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Aalto, A. (1921) "Painters and Masons", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Aalto, A. (1925) "Architecture in the Landscape of Central Finland", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Aalto, A. (1954) "Journey to Italy", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Aalto, A. (1948) "The Trout and the Stream", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Aalto, A. (1928) "The Last Trends in Architecture", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Aalto, A. (1940) "The Humanizing of Architecture", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Aalto, A. (1972) "Speech at the Helsinki University of Technology Centennial Celebration, December 5, 1972", in Göran Schildt *Alvar Aalto, In his own words*, New York: Rizzoli International Publications.
- Biurrun, F. J., Closa, M. and Linares A. (1991) *El Sanatorio de Paimio, 1929-1933, Alvar Aalto: la arquitectura entre la naturaleza y la máquina*, Barcelona: Servei de Publicacions de la UPC.
- Jové, J.M. (2003) *Alvar Aalto: proyectar con la naturaleza*, Valladolid: Secretariado de Publicaciones e Intercambio Editorial.
- Norberg-Schulz, Ch. (2009) *Los principios de la arquitectura moderna*, 2nd edn., Barcelona: Editorial Reverté.
- Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, New York: Rizzoli International Publications.
- Schildt, G. (1994a) "Kinkomaa Tuberculosis Sanatorium, 1927", in *The Architectural drawings of Alvar Aalto*. vol. 3, New York: Garland.
- Schildt, G. (1994) "Paimio Tuberculosis Sanatorium, 1927", in *The Architectural drawings of Alvar Aalto*. vol. 4, New York: Garland.
- Schildt, G. (1998) *Alvar Aalto. In his own words*, 2nd edn., New York: Rizzoli International Publications.
- Schildt, G. (2000) *Alvar Aalto de palabra y por escrito*, 2nd edn., Madrid: El Croquis Editorial.