

Aalto's Finnish followers and the natural form

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In the 1950's Alvar Aalto's constantly increased international reputation gave him an unrivaled position among the Finnish architects: 1943-58 he served as the chairman of Finnish Association of Architects, in 1955 he was appointed as an academician, and his studio received more and more spectacular commissions from large companies, government, municipal authorities and the Evangelical Lutheran Church.

The most important counterforce for Aalto's dominance in the 1960s was the Department of Architecture in the Helsinki University of Technology, where professors Aulis Blomstedt and Aarno Ruusuvuori and their young assistants emphasized rationalist design methodology and minimalist aesthetics. The third important institution was the Museum of Finnish Architecture, founded in 1956, which soon became a discussion forum for theoretically oriented architects of different generations. The *Arkkitehti* magazine always published Aalto's realized and unrealized designs extensively. Their stylistic imitations were also built quite a lot, but they were rarely published – regardless of their architectural quality.

In this polarized situation also those young architects, who tried to find more original ways of interpreting Aalto's organic ideas, such as Reima (b. 1923) and Raili (b. 1926) Pietilä, Timo (b. 1928) and Tuomo (b. 1931) Suomalainen and Timo Penttilä (b. 1931), quickly found themselves in a marginal position. They were frequently criticized for turning their backs on the reality of rapidly modernizing and urbanizing Finland.¹ The architects themselves emphasized individuality as a cornerstone of a democratic society and presented their work as a counterforce for the dominant techno culture.²

None of these architects had a close personal or professional relationship with Aalto, and as he remained a distant figure, the young architects established close relationships with other architects of the older generation.³ Reima Pietilä's intellectual and artistic development was significantly affected by Aulis Blomstedt – for example Pietilä's elementarist compositional studies (1956-57) and the Finnish pavilion at the Brussels World Fair in 1958 was based on Blomstedt's ideas. For Penttilä the most important of his older colleagues was Arne Ervi, whose office he worked a couple of years in the late 1950s.⁴ The Suomalainens were Aarno Ruusuvuori's assistants in the Helsinki University of Technology in 1961-64⁵ and their sophisticated details are closely related to Ruusuvuori's minimalism. Later their relationship, however, was broken.

The young architects' personalities and design methods differed significantly from each other. Penttilä, for example, said that Pietilä's architecture never appealed to him and he found it too confusing.⁶ While Penttilä and the Suomalainens continued the pragmatic Finnish design tradition, Reima Pietilä directed much of his energy into theoretical reflections. Exceptional in the Finnish architectural culture dominated by rationalism was also Pietilä's emphasis on playfulness and imagination.⁷

Pietilä and Penttilä were actively involved in the Finnish architectural debates of the 1960s and 1970s. Often, they attacked provocatively their opponents, such as Kirmo Mikkola, Juhani Pallasmaa, and other young constructivist.⁸ Pietilä emphasized the artistic and the intellectual aspects of architecture and criticized the strict rules of the Modernist aesthetics. Penttilä defended freedom of expression and the rights of the entrepreneur, which was exceptional in the political atmosphere of the late 1960s and the early 1970s so dominated by left-wing radicalism.⁹ The Suomalainens tend to avoid public debates and focused on their design work. However, their design for the Tempeliaukio Church caused one of the most intense architectural controversies of the 1960s. The young left-wing theologians criticized the waste of the Church's resources which should have been given to development aid, rather than monumental buildings.¹⁰ Also, a majority of architects considered the building too irrational and eccentric.

Topological methods

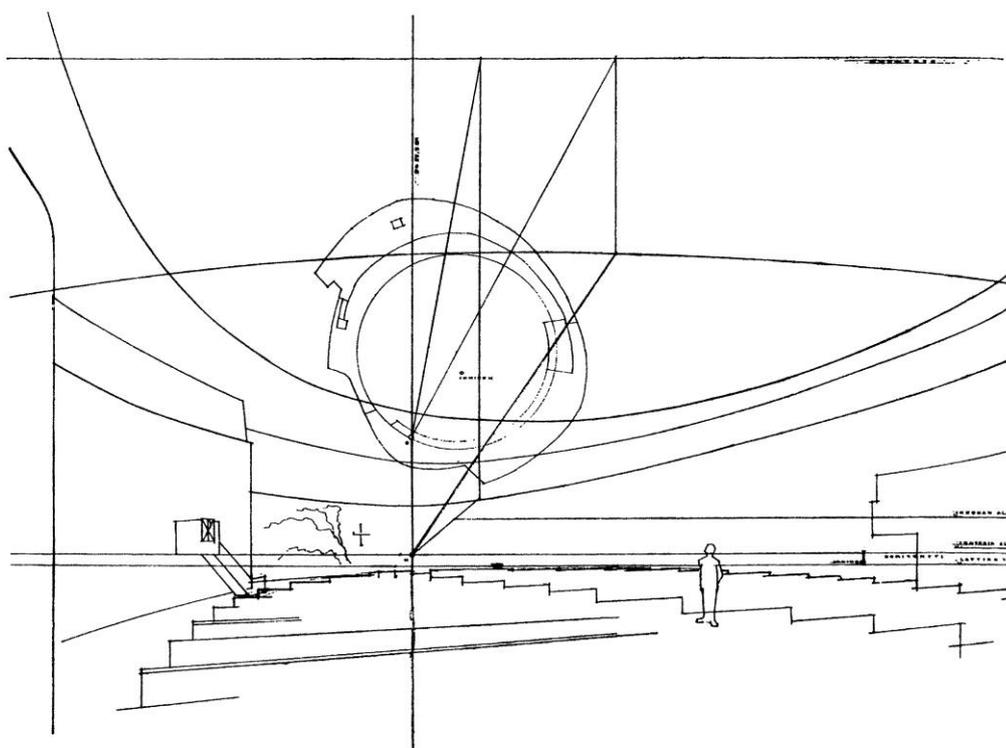
Aalto's influence on Finnish Architecture of the 1960s is most obviously visible in the topological siting of the buildings. Sunila was as a model for a large number of housing estates after the Second World War. For example, in the Pihlajamäki estate in Helsinki (1959-64) town planner Olli Kivinen adjusted Sunila's urban characteristics, such as white lamella blocks meandering in the midst of pine trees, on the scale of the industrial construction. On the highest cliffs stands a series of Lauri Silvennoinen's tower blocks, which were influenced by Aalto's Viitatorni (1957-61) in Jyväskylä.¹¹ Also Reima Pietilä's town plans of the early 1960s can be interpreted as developments of Aalto's 'forest town' concept. He, however, used to concentrate buildings into narrow and relatively dense strips, which followed the topography.¹²

The Helsinki City Theatre, designed by Timo Penttilä in 1960-67, is located in the rocky border zone between a waterfront park on the Eläintarhanlahti Bay and the apartment blocks of Kallio. Penttilä was able to maintain the park-like nature of the site by excavating the stages and the large production facilities into the slope. The floors of a glass-walled foyer, which circumvents the auditoriums and overlooks the waterfront park, are terraced to follow the contour lines. On the other hand, Penttilä's architecture has plenty of features typical for the classical monumental architecture. For example, the cross-shaped columns, whose sides are clad with ceramic tiles, are distant relatives of the Classicistic columns –just like Aalto's cylindrical columns clad with ceramics rods. Similarly, the polygonal profiles of canopies, ceilings and railings are reminiscent of Classicistic architraves. Overall, harmonious proportions and sophisticated materials and details give the Theater a civilized urban look.



Timo Penttilä: Helsinki City Theatre, 1960–67. Main foyer. Photo: Kristo Vesikansa.

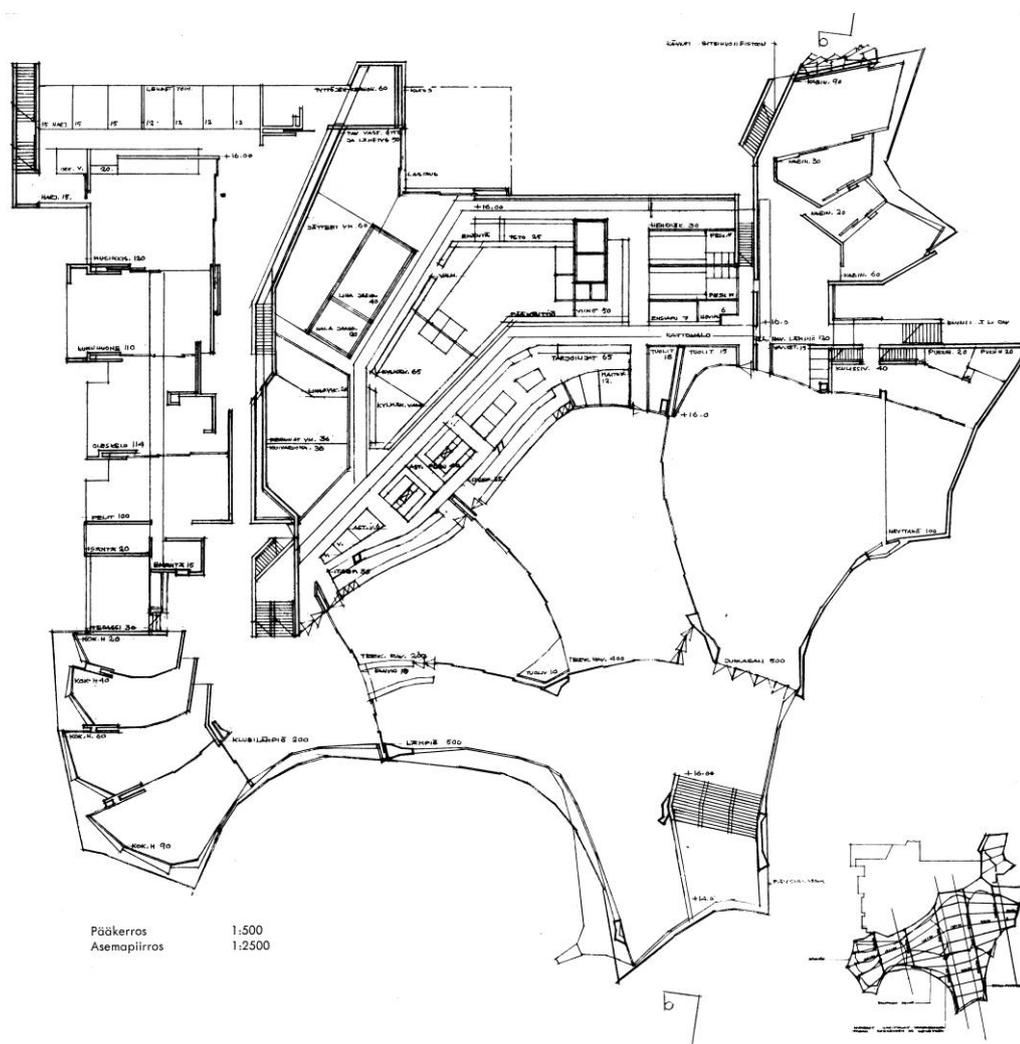
The Tempeliaukio Church (1960-69) was built on rocky outcrops, which had been preserved in the middle of Töölö residential district. In the city plan approved in 1906, the site had been earmarked for a monumental public building. In 1939 digging began for the foundations of a Classicistic church designed by J.S. Sirén, but the construction was soon interrupted as the Winter War broke out. The Suomalainens' competition entry was a complete antithesis of Sirén's cathedral-like Church. They seek to preserve the natural state of the site as much as possible. A dark corridor leads from the modest entrance square to a luminous church hall extracted from the rock. The Suomalainens' applied three geometric systems in order to give each part of the complex a unique character. The church hall, covered with a flat spherical dome, was enclosed with freely curved concrete walls. A skylight was placed between the dome and the walls to illuminate the entire room evenly. On the surface, a stone wall encircling the skylight repeated the meandering shape of the walls. Two podium-like buildings for the parish facilities on the west side of the plot formed the third, polygonal geometric system.



Timo and Tuomo Suomalainen: Tempeliaukio Church, Helsinki, 1960-61. Perspective. Arkkitehti, kilpailuliite 2/1961.

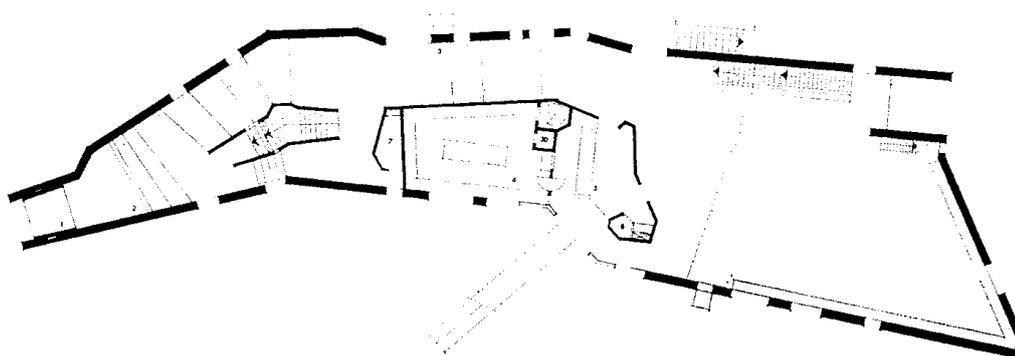
After the competition had been solved, the parish premises were reduced to one third of the original. The Suomalainens tried to preserve their original idea by joining the separate buildings with retaining walls. Still, the parish premises are too small to form a proper pair for the dome of the church. The church hall was realized essentially according to the competition entry. However, the atmosphere of the room was decisively changed as the Suomalainens decided to expose the excavated rock surface.

Of these three buildings, the Dipoli Student Centre in Espoo, designed by the Pietiläs in 1961-67, was the most ambitious attempts to convert the spatial geometric structural form of the Nordic forest into an architectural language. Reima Pietilä later recounted how at the competition stage he had measured the rocky terrain by pacing out the distances, which then provided the outline of the cave-like shapes of the concrete vaults of the main floor of the building.¹³ In turn, the sturdy vertical window jambs stand like trees in nature, giving the impression of the forest continuing into the interior. He thought that *"Dipoli must not be seen as a pervading, evened-out totality, a civilized urban architecture. A person who has a fixed image in his mind of a grid of street corridors easily feels lost and becomes ill in Dipoli. If one understands that the interior of Dipoli is like the rocky spruce forest that surrounds it, one can easily cope in the building."*¹⁴ Instead of the traditional static façade, the Pietiläs designed four different façade segments for Dipoli, which interact in different ways with their immediate surroundings.¹⁵



Raili Paatelainen and Reima Pietilä: Dipoli Student Centre, Espoo, 1961. Plan. *Arkkitehti*, kilpailuliite 4/1961.

Almost simultaneously with Dipoli architect Kurt Moberg designed a much smaller building on the adjacent site for the Swedish Student Union. The building reflects the geomorphology of its larger neighbour but the composition is more disciplined – in fact, the façades are closely related to the Temppeleaukio parish centre. The in-situ concrete façades are reminiscent of an artificial rock wall and the vertical windows follow the rhythm of the surrounding forest. As a spatial core of the building Moberg designed a corridor meandering like the forest path, with floors terraced to follow the contour lines. Compared to Dipoli the Swedish Student House is remarkably introverted: the narrow windows offer only fragmentary views of the environment.



Kurt Moberg: Teknologföreningen Building, Espoo, 1962-66. Plan. Arkkitehti 9/1967.

A good example of the methodology of the Finnish organic architecture is also the Hanasaari Cultural Centre in Espoo, designed by Veikko Malmio in 1970-75. The building is composed of three separate wings, which branch off radially from the entrance hall. Thus, it was possible to design each wing independently, taking into account topography, orientation, views as well as functional and structural requirements. While the restaurant wing overlooking the sea is an irregular polygon, the hotel room wing is fairly systematic. The façades are clad with exceptionally rough exposed aggregate pre-cast panels.¹⁶



Veikko Malmio: Hanasaari Cultural Centre, Espoo, 1970-75. Photo: Kristo Vesikansa.

Geometrical variations

The Pietiläs, Penttilä and the Suomalainens always tried to find an appropriate expression for each task and context. Therefore, they were free to use completely different geometric systems in simultaneous projects. In everyday buildings, such as schools and blocks of flats, they usually ended up using a rectangular geometry and a modular construction system. For example, the Haaga vocational school designed by the Suomalainens in 1962-67 consists of four parallel units of different lengths. Single-pitched roofs, white aluminium panels and modular glass walls give the building a minimalist industrial look.

In the Suvikumpu residential block in Espoo (1962-69) the Pietiläs strived to express the ambivalence and conflict inherent in the natural landscape by means of rectangular geometry. The rhythmical composition of the windows, balconies and colour fields give the buildings the appearance of an eroded rock face. The terraced blocks, meandering in the shelter of the small forest, follow the contour lines of the site. The colouring, which imitates a wintry mixed forest, further erodes the difference between the building and nature. In Reima Pietiläs's opinion, the scale of the building should follow the measurements of nature rather than those of man. For example, the typical emphasis on floor subdivision in the blocks of flats built in the 1960s distorted, in his opinion, the proportions of the landscape.¹⁷



Raili Paatelainen and Reima Pietilä: Suvikumpu residential block, Espoo, 1962–69. Photo: Kristo Vesikansa.

Emphasis on materiality

The young architects usually preferred more robust materials than Aalto. The mysterious atmosphere of the Temppeliaukio Church is largely based on contrast between the roughness of the excavated rock surfaces and the refinement of the doors, glass walls, suspended ceilings, furniture, and other details. The Suomalainen's principle was to leave materials without surface treatment wherever possible: for example, the copper strips and plates were allowed to patinate naturally. The textures of concrete structures vary according to the hierarchy of spaces: smooth cast unpainted surfaces were used in the church hall, unpainted wood-imprinted surfaces in the entrance hall and the balcony and white painted wood-imprinted surfaces in everyday spaces. On the other hand, the method of treating wood surfaces seems to be inconsistent with the pursuit towards naturalness: they were stained sky blue in the church hall and dark brown in everyday spaces.¹⁸

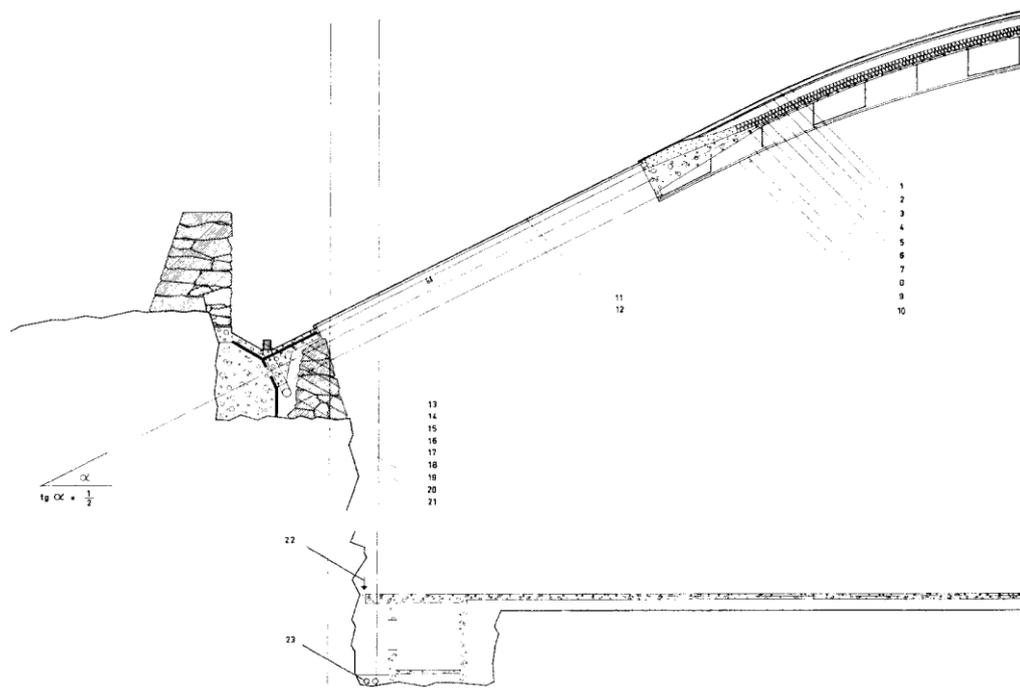
Robust stone walls, wood-imprinted concrete, copper and wood panels are characteristic materials also for Dipoli. However, in comparison to Suomalainens' perfectionism, Pietiläs' details are conscious clumsy and elements collide with each other in an uncontrolled way. Reima Pietilä himself admitted that *"Dipoli might be a torso. It is unsettled architecture. As it is like a materialized sketch, it is also drawn architecture – Too difficult to settle rightly as yet."*¹⁹ Pietilä defined Dipoli as a modified board house: width of the board is repeated in wood panelling, in concrete surfaces and in pre-patinated copper claddings.²⁰

The Pietiläs', Penttilä's and the Suomalainens' natural metaphors and lively surface textures have parallels in the oeuvre of several Finnish designers, such as Tapio Wirkkala and Timo Sarpaneva, as their styles evolved from sophisticated asceticism towards luscious naturalism during the 1960s. Materiality was also emphasized in Informalism, which briefly dominated the Finnish art world in the mid 1960s. Reima Pietilä had seen international Informalist and Abstract Expressionist art in the Venice

Biennale in 1958²¹ and his design method does indeed seem to resemble Abstract Expressionism: *"During the first few weeks of the [Dipoli] competition I made series of enigmatic free drawings, 'orienting sketches'... There is a dreamlike atmosphere in the preliminary sketches for Dipoli. It was like clairvoyance, the welling up of surreal abstractions."*²²

Structural innovations

Organic architecture was frequently criticized for its technical inconsistency²³ but in reality, the complex geometry often demanded innovative structures. For example, the whole spatial concept of the Kaleva Church, designed by the Pietiläs in 1959-66, was based on the slip casting technique. A partial section of the Temppeliaukio Church visualizes the most important structural and mechanical solutions of the building: a dome-shaped concrete shell is supported by 180 pre-stressed concrete beams. Because of the varying width of the skylight also the pre-cast beams have different length. The Suomalainens covered a concrete ring supporting the beams with a stone wall, which takes the full force of the confrontation between the perfect geometry of the dome and the randomness of the excavated rock surfaces. Between the concrete shell and a suspended copper ceiling is an installation space for electric wires etc. Under the church floor is a circular concrete channel, where the exhaust air is drawn through slits between the rock wall and the concrete slab. Correspondingly, the inlet air ducts are integrated in the hollow pillars supporting the cantilevered gallery.

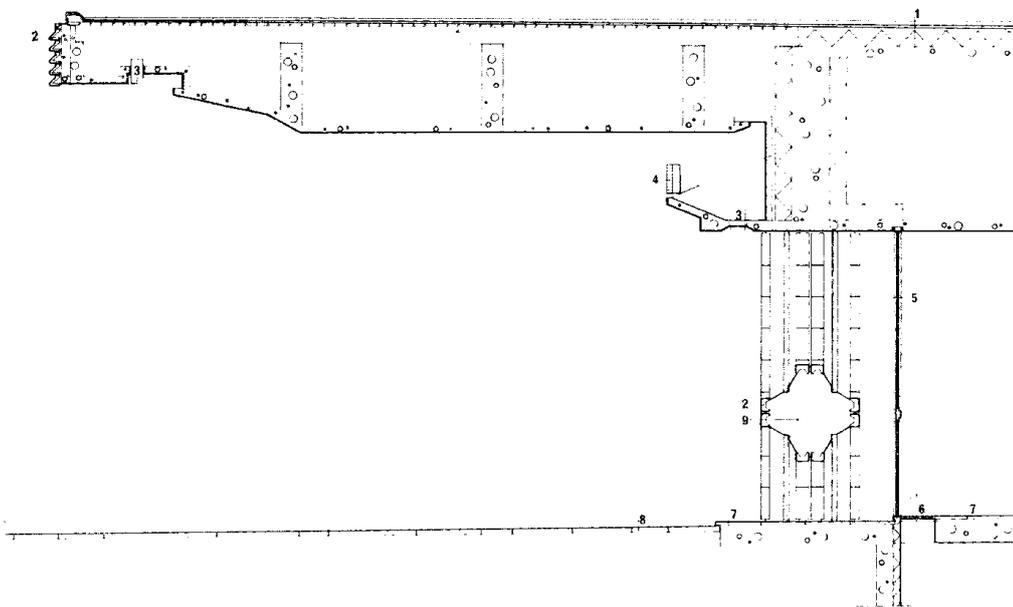


Timo and Tuomo Suomalainen: Tempelisaukio Church, Helsinki, 1960-69. Section. Arkkitehti 3/1970.

In the Finnish Embassy in New Delhi (competition 1963, built in 1983-85) the Pietiläs' covered the large complex with a folded concrete roof to protect it from the sunshine and the monsoon rains. At the same time, the irregular surface is an abstraction of the geomorphology of the Finnish lake landscape as shaped during the Ice Age²⁴, following the example of Aalto's World's Fair Pavilion in New York. A much more disciplined but at least as ambitious folded slab construction is Timo Penttilä's Ratina Stadium in Tampere (1963-66). The canopies protecting the entrances of the Helsinki City Theatre are structurally almost as bold. Constructed as ribbed slabs they cantilever far over the driveway, and also the lighting is integrated into the structures.

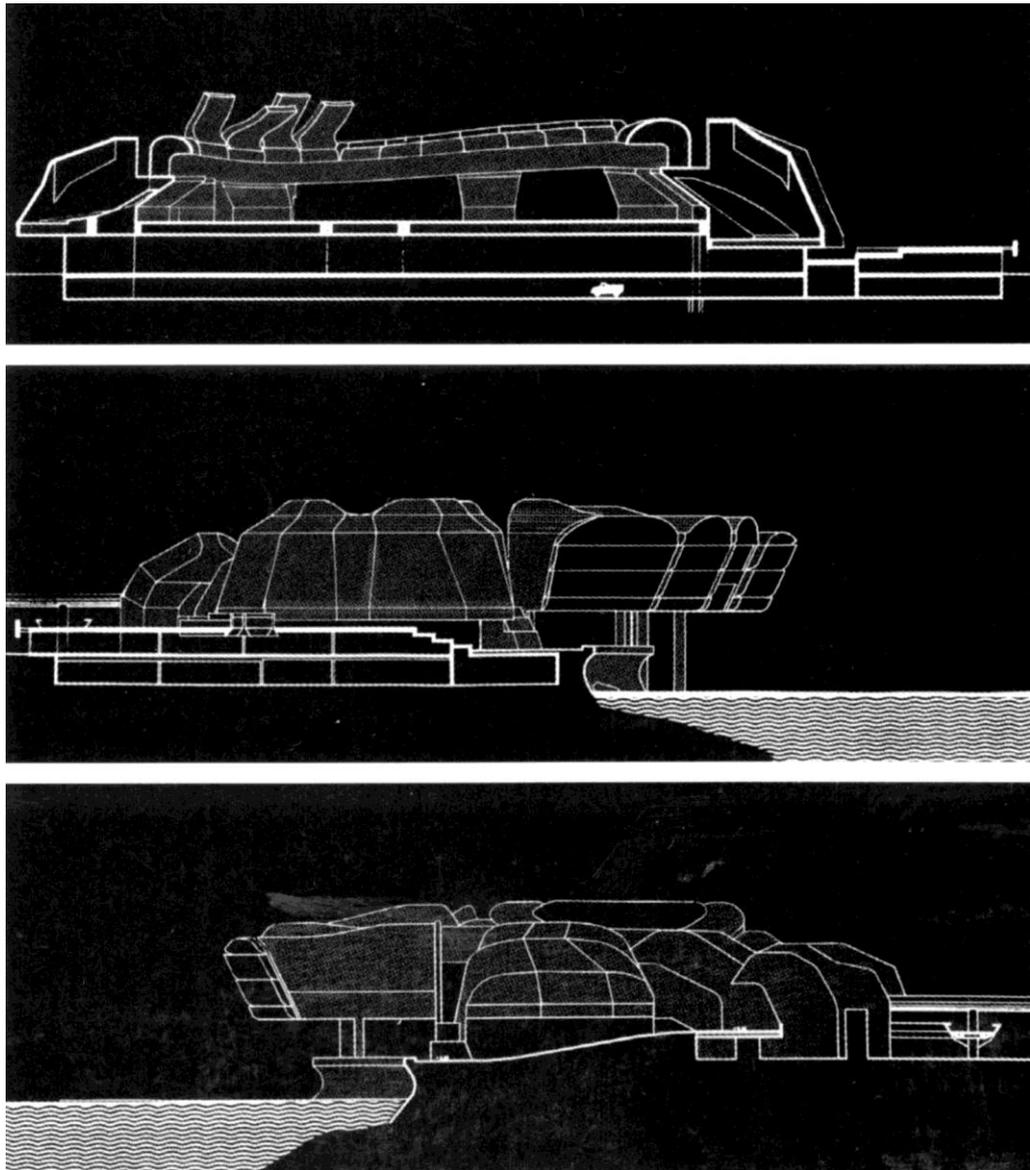


Raili Paatelainen and Reima Pietilä: Finnish Embassy, New Delhi, 1963. Sections and elevations. Arkkitehti, kilpailuliite 2/1964.



Timo Penttilä: Helsinki City Theatre, 1960-67. Entrance canopy. Arkkitehti 5/1967.

A few of Pietiläs' most cherished projects came about by combining the topological thinking with industrial construction. In their competition entry for Zurich University in 1966 the stepped building was cut through by an access hall that meandered like a forest path. On either side of hall were placed sculptural lecture halls and a regular row of prefabricated wing buildings.²⁵ In the competition three years later for a multi-purpose centre in Monte Carlo, the Pietiläs set as their goal to naturalise machine architecture. In their proposal they placed by the harbour a cluster of soft-shaped cave constructions, the inspiration for which had been the fantastic limestone formations of Bonifacio in Corsica.²⁶ The opened roof structures of the kidney-shaped main hall made it look like a sort of mechanical sea anemone.



Raili Paatelainen and Reima Pietilä: Monte Carlo Multi-Purpose Centre, 1969. Sections and elevations. Pietilä. Intermediate Zones in Modern Architecture, ed. Marja-Riitta Norri et al., Museum of Finnish Architecture & Alvar Aalto Museum, Helsinki & Jyväskylä, 1985.

The fate of organic architecture

After the completion of the Helsinki City Theatre, the TempPELLIAUKIO Church and Dipoli, both Penttilä, the Suomalainens and the Pietiläs drifted to the margin of the Finnish architectural field, each in a slightly different way. The Suomalainens were left most completely in darkness. For example, none of their designs were published in the *Arkkitehti* magazine after the completion of the TempPELLIAUKIO Church. Nor did they try to bring their ideas out through other media. However, their reputation as professional designers for schools, colleges and military buildings ensured a steady work for their studio.²⁷

Also Timo Penttilä's studio designed constantly large projects, i.e. power plants, office buildings and training centres. Furthermore, his buildings and writings were published quite extensively. Yet he also felt that the Finnish architectural culture was distressing. Therefore he decided to accept a professorship of the Vienna Academy of Fine Arts in 1980.²⁸

Reima Pietilä had a peculiar status of a kind of official dissident of Finnish Modernism. Therefore his designs and writings were constantly published. However, after the completion of Dipoli he did not receive any larger commissions for many years. The Pietiläs' sculptural design for the Malmi Church was cancelled, at least partially, due to the criticism aroused by the TempPELLIAUKIO Church. While Raili worked for some time in the Building Regulation Department of Helsinki, Reima focused on his theoretical studies. In 1973 he was appointed professor at the University of Oulu, and a few years' later large projects in Kuwait and in Hervanta brought once again work for their studio.

¹ Juhani Pallasmaa, *Vastapoli*, *Arkkitehti* 5/1967.

² *Keskustelu 60-luvun suomalaisesta arkkitehtuurista*, *Arkkitehti* 8/1969; Reima Pietilä, *Arkkitehtuuri – estetiikka – yhteiskunta – ideologia*, *Arkkitehti* 1/1973; Reima Pietilä, *Arkkitehtuuri ja teknokulttuurin maailma*, *Arkkitehti* 1/1974.

³ As a member of the jury in the architectural competition for the Dipoli Student Centre Aalto promoted significantly Pietiläs' career. On the other hand, Aalto treated the Suomalainens very uncollegially by capturing them the commission of the Jyväskylä administrative and cultural centre. Maila Mehtälä, *TempPELLIAUKIO – kirkko Suursaaresta länteen*, WSOY, Helsinki, 2003, p. 103; Roger Connah, *Grace and architecture*, Rakennustieto, Helsinki, 1998, p. 51-52.

⁴ Jorma Mukala, *Good building is not an occult science. An interview with Timo Penttilä*, *Arkkitehti* 2/2011.

⁵ Maila Mehtälä, *TempPELLIAUKIO – kirkko Suursaaresta länteen*, WSOY, Helsinki, 2003, pp. 279- 281.

⁶ Jorma Mukala, *Good building is not an occult science. An interview with Timo Penttilä*, *Arkkitehti* 2/2011.

⁷ Pauline von Bonsdorff, *The Sorcerer's Hat and the Carpenter's Hands: Material Imagination in Pietilä's Architecture*, in *Hikes into Pietilä Terrain*, ed. Aino Niskanen et. al., Rakennustaiteen seura & Taidehistorian seura, Helsinki, 2007, pp. 9-20; Aino Niskanen, *Grey Cat and Blue Toenails – Play as a Theme and Method in the Architecture of the Pietiläs*, in *Hikes into Pietilä Terrain*, pp. 57-60.

⁸ Reima Pietilä, *Vastaavuuspeli*, *Arkkitehti* 5/1967. Those who followed the debates from the outside did not always understand that they were primarily intellectual struggles between theoretically-oriented architects, not personal disputes. For example, Pietilä was constantly in correspondence with Mikkola and Pallasmaa. Juhani Pallasmaa, *Reima Pietilä ja Rakennustaiteen museon piiri*, in *Raili ja Reima Pietilä. Modernin arkkitehtuurin haastajat*, ed. Eriika Johansson et.al., Suomen rakennustaiteen museo, Helsinki, 2008, p. 17; Jorma Mukala, *Arkkitehtuurilinjoja. Kirjoituskirjoituksia*, Rakennustieto, Helsinki, 2009, pp. 273-275.

⁹ *Keskustelu 60-luvun suomalaisesta arkkitehtuurista*, *Arkkitehti* 8/1969; *Arkkitehtuurin aatteet ja arki*, *Arkkitehti* 8/1974.

¹⁰ Maila Mehtälä, *TempPELLIAUKIO – kirkko Suursaaresta länteen*, WSOY, Helsinki, 2003, pp. 106-113, 138-139, 143-144.

¹¹ Kivinen's early designs for the Pihlajamäki shopping centre were equally obviously influenced by Aalto's city centre plans. Both Kivinen and Silvennoinen were employed in Aalto's studio in the early 1950s. Aino Niskanen, *Pihlajamäen arkkitehtuurin esikuvia ja samanaikaisuuksia*, in *Pihlajamäen arvot ja aatteet – suojelun viitekehystä hakemassa*, ed. Riitta Salastie, Helsingin kaupunkisuunnitteluvirasto & Helsingin lähiöprojekti, Helsinki, 2003, pp. 77-94.

¹² In his writings Pietilä criticized Finnish housing estates too schematic and incoherent. Reima Pietilä, *Kaavan kaava*, *Arkkitehti* 4-5/1960; Kristo Vesikansa, *Traces of natural form*, *Arkkitehti* 6/2009.

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- ¹³ Reima Pietilä, "Genius Loci" – *personal interpretation*, *Architecture & Urbanism* 6/1983.
- ¹⁴ *Parnasson kyselytunti. Reima Pietilä*, *Parnasso* 4/1967.
- ¹⁵ In comparison to the unrestrained sprawling Dipoli, the Pietiläs' entry for the Malmi Church competition in 1967 was a disciplined and carefully finished geomorphologic study. A mysterious concrete boulder was implanted at the summit of a forested hill, within which was hidden a series of cavernous spaces lit by roof lights.
- ¹⁶ Veikko Malmio, *Hanasaaren kulttuurikeskus*, *Arkkitehti* 1/1976.
- ¹⁷ Reima Pietilä, *Genius Loci – personal interpretations*, in *Genius Loci – a Search for Local Identity. Seminar on Architecture and Urban Planning in Finland 1982*, SAFA, 1982, pp. 78-80.
- ¹⁸ The Suomalainens used almost the same material and colour palette in the hotel Mesikämmen in Ähtäri (1973-76). The narrow hotel room wings are staggered into two levels and bended slightly to follow the forms of the slope. Above them rises a geometrically more complex part, which contains i.e. a restaurant and a swimming pool. While the lower parts of the façades are wood-imprinted concrete, the upper parts and the cornices are clad in wood panelling, painted green to imitate the colour of foliage. A stairwell extracted from the rock connects the different parts of the complex. Just like in the Tempeliaukio Church, the roughness of the stone walls and the excavated rock walls is emphasized by the precise concrete stairs and bridges.
- ¹⁹ Reima Pietilä, *Sanatarkasti muoto-oppia*, *Arkkitehti* 9/1967.
- ²⁰ Reima Pietilä, *Sanatarkasti muoto-oppia*, *Arkkitehti* 9/1967. Dipoli was criticized that the boarding of the undersides of the eaves watered down the idea to continue the concrete ceilings of the great halls outdoors. *Parnasson kyselytunti. Reima Pietilä*, *Parnasso* 4/1967.
- ²¹ Reima Pietilä, *Biennale 29*, *Arkkitehti* 12/1958. In the yearbook Suomen taide Pietilä wrote an article, which is considered to be the first objective analysis of Informalism in Finland. Soile Sinisalo, *Kuvataide 1960-luvulla*, in *Ars Suomen taide 6*, ed. Salme Sarajas-Korte et al., Otava, Helsinki, 1990, pp. 181-182.
- ²² *Architecture and Cultural Regionality. Interview with Reima Pietilä*, in *Pietilä. Intermediate Zones in Modern Architecture*, ed. Marja-Riitta Norri et al., Museum of Finnish Architecture & Alvar Aalto Museum, Helsinki & Jyväskylä, 1985, p. 27.
- ²³ Juhani Pallasmaa, *Vastapoli*, *Arkkitehti* 5/1967.
- ²⁴ Raili & Reima Pietilä, *Suomen suurlähetystö. Suunnitelma. New Delhi, Intia*, *Arkkitehti* 1/1983.
- ²⁵ Reima Pietilä & Raili Paatelainen, *Zürichin yliopiston laajennuskilpailu*, *Arkkitehti* 6/1967.
- ²⁶ Reima Pietilä, *An Introspective Interview*, *Architecture & Urbanism* 9/1974.
- ²⁷ Roger Connah, *Grace and architecture*, *Rakennustieto*, Helsinki, 1998.
- ²⁸ Jorma Mukala, *Good building is not an occult science. An interview with Timo Penttilä*, *Arkkitehti* 2/2011.