

# Nature and the Machine: Alvar Aalto's Villa Mairea and an Architecture of Place

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*Only nature is inspiring and true; only Nature can be the support for inspiring human works.*

– Charles L'Eplattenier, 1906

*Nature, not the machine, is the most important model for architecture.*

– Alvar Aalto, 1938

## INTRODUCTION

This paper considers the relationship between landscape and culture in Scandinavian architectural practice during the 1930s. It examines the confluence of machine-inspired modern movement architecture and the search for a Nordic identity combining myth, craft, culture, and place. Alvar Aalto's Villa Mairea (Fig. 1) fuses a Semperian interpretation of craft and material with the landscape and social need.

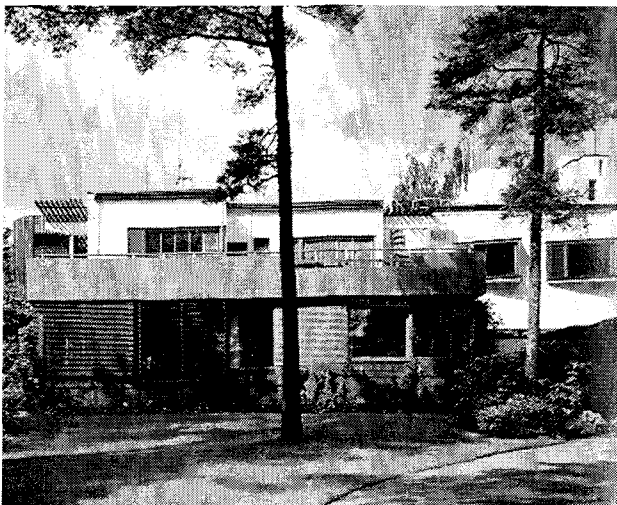


Fig. 1. Alvar Aalto, Villa Mairea, Noormarkku, Finland (1933-41), exterior view.

Aalto's vision of an architecture mirroring a harmonious relationship with nature is evident in Göran Schildt's comparison of the Karelian house with a Classical ruin:

"The strong appeal of ruins to modern, alienated man does not arise merely from their representation of a supposedly harmonious Antiquity, but the atonement implicit in the way that nature reclaims what man has borrowed. . . . In a world obsessed with technology, Aalto's ambition was to attain the same kind of harmony with the cosmos he imagined that the Karelian village once had."<sup>1</sup>

Aalto ultimately aspired to bequeath models of a kind, made up of concrete artistic examples, works bringing the deepest conflicts of our age into exemplary harmony.

Although Aalto enthusiastically embraced Modernism when it reached the Nordic countries, it was clear to him from the outset that the "International Style" must not be a stylistic formula, but a way of thinking and working to be adapted to specific cultures and landscapes.<sup>2</sup> Modernism has generally sought consistent development of a single, fixed leitmotif. Aalto deliberately cultivated modulation subordinating the demands of logic and orthodox structure in order to arouse poetic expectation, discovery, and adventure.<sup>3</sup> His architecture subverts the rational, oversimplified, and diagrammatic tendencies of Modern orthodoxy and presents us with buildings that are rich, evocative, and complex. Like Venturi, Aalto is interested in an architecture that has a "special obligation to the whole," an architecture that embodies "the difficult unity of inclusion rather than the easy unity of exclusion."<sup>4</sup>

## NATURE AND THE MACHINE

During the 1930s the imperatives of "mechanism" were radically reconsidered in the light of several visions and interpretations of the natural order. Le Corbusier's *machine à*

*habiter*, while a potent symbol of the functionalist credo, was itself subject to a variety of literal and figurative interpretations and variations. Aalto's own "bio-technical" version of modernity tended toward deeper physical and psychological resonances with the natural environment, which was resistant to the mechanical imperatives induced by the machine. As Curtis asserts:

"Villa Mairea rejected a merely 'abstract' vision of space and replaced it with an enclave encouraging a sense of belonging. The incidents and rituals of daily life were celebrated in a sequence of 'places' and stopping points. The plan of the whole evoked an organism, even a curved fish with head, body, and tail; it also had the character of a Cubist collage in which different qualities, shapes, materials, and identities were spliced together."<sup>5</sup>

The Villa Mairea in Noormarkku, Finland (1938-41) is the condensation of so many ideas that it is tempting to see it as the pivotal building for Aalto in which he reveals his true nature unencumbered by history or tradition. Curtis as well as other scholars have noted that the sinuous shapes of the house are most certainly rooted in Aalto's earlier experiments in furniture and glassware design, in Le Corbusier's free-plan curves, and in the "bio-morphic", abstract painting and sculpture of the 1930s. Considered as a whole, the ensemble of Villa Mairea evokes the theme of the "natural house"—a transposition of a woodland clearing into the forms of architecture.

The Stockholm Exhibition of 1930 is regarded as a breakthrough of Nordic functionalism.<sup>6</sup> Its slogan "accept the existing reality" served as clarion call for a new technological society in which machines would liberate people from hard and unpleasant work. In his review of the exhibition Aalto declared himself unequivocally in favor of "the gains architecture has made by setting itself the goal of being a social factor instead of . . . dedicating too much attention to decorative and representational viewpoints."<sup>7</sup>

Functionalism, while occasionally misconstrued with a machine aesthetic, may be regarded as a planning method, a social program, an application of technology, and as a style. In the 1920s the relation between society and technology was essentially different from what it is today. The progressive architect believed in technology and let his buildings speak for it. The heroic tradition of the machine aesthetic, which was embraced by many Scandinavian architects including Asplund, came to being and has survived through monumental buildings such as the Centre Pompidou and Lloyds of London. However, despite the rapid advancement of technology in the 20th century, our present attitude toward technology is somewhat ambiguous. The causes for this ambivalence are not entirely clear. Some argue that technology has strengthened its position in society and, therefore, does not need any further pleading. Post-modernism shifted architectural discourse from technical

achievements to symbolic values and meanings. Others have argued that the so-called high-tech buildings are not harbingers of a new era but should rather be regarded as vestiges of a dying tradition. And there has been a general countercultural tendency to ignore the achievements of technology altogether in an effort to return to architecture's pre-industrial origins. Thus the straightforwardness and simplicity of the 1920s is difficult to understand from the perspective of the early 21st century.

Although an early proponent of functionalism, Aalto's later reticence about the machine aesthetic and technology may be attributable to his underlying skepticism of formalism in general and technology for its own sake. He was searching instead for an authentic "autonomous" Nordic architecture free of foreign influences derived through the organic tradition. Although he was sympathetic to technology as a means of production, Aalto was somewhat dismissive of the Bauhaus methodology considering it a "limited experiment at an elementary level."<sup>8</sup> St. John Wilson notes that in contrast to the emphasis at the Bauhaus upon production method as the chief parameter in the design of light-fittings, for instance, Aalto gave priority to the quality and variety of light to be created. "In general it was under the sign of the biological rather than the mechanical that his formal sensibility was modeled."<sup>9</sup> Aalto's passion for natural forms and his exploration of nature's resources fostered a willing acceptance of the agencies of growth and change in planning in built form and in the selection of materials that welcomed the action of time.

Two Helsinki buildings characterize Aalto's preoccupation with masking internal spatial variations with formalist expectations based on technocratic construction methods. The Enzo-Gutzeit Headquarters Building (1959-62) (Fig. 2) is located on the site originally used by Aalto for his Parliament Building competition entry of 1923.<sup>10</sup> Aalto always referred to this building, symbolically, as the *palazzo*. "Set on the very forefront of the harbor and seen immediately by every visitor arriving by boat, his *palazzo* appears to actually front the harbor, whereas it actually faces back towards the city center."<sup>11</sup> Aalto overlaid the panoramic elevation of the façade with a modular grid, which showed the dimensional relationship of the different parts of the panorama to the whole. However, upon closer examination the module dictating the design of the building, as well as the modular grid itself, is just a superficial overlay since the interior organization of the offices do not correspond to the module.

A similar transformation of the module occurs in the Villa Mairea in which the open living room is planned around a rectilinear structural grid whose dimensions are adjusted to suit the disposition of rooms above. Richard Weston indicates this contrasts with the conventional Modernist practice exemplified by the work of Le Corbusier and Mies van der Rohe, in which the structural grid was conceived as a regular counterpoint to the independent disposition of the "free plan."<sup>12</sup>

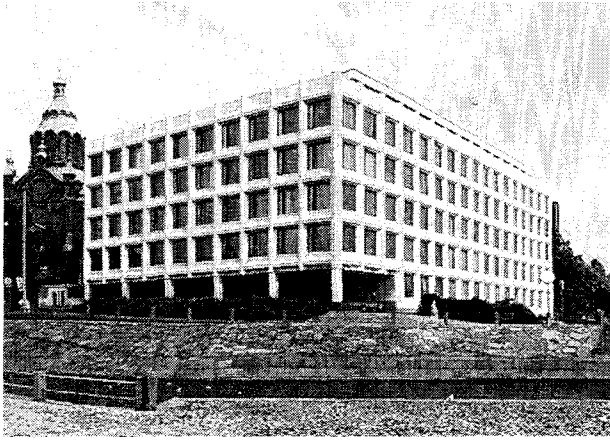


Fig. 2. Alvar Aalto, Enzo-Gutzeit Headquarters Building, Helsinki, Finland (1959-62), exterior view.

The extension of the Stockmann Department Store, also known as the Academic Bookshop (1966-69) (Fig. 3), has an external regularity and severity that recalls Mies van der Rohe. The weightiness of the copper-clad wall (in which the dominance of the glazing is held in check by the dark copper trim) follows the tonal quality of the Saarinen bank next door. However, it is Aalto's emphasis on the top-lit interior courts with their double-shell skylights dramatically projecting through the roof into the interior that distinguish this building.

Ultimately, Aalto's interests lay beyond the formal and mechanical propensities of functionalism and led him to experiment with forms and materials in unprecedented ways. Experiments with molded plywood and sinuous glassware transformed classical forms into Aalto's anthropomorphic language. For the Paris Exposition of 1937 he designed the Finnish Pavilion using standardized sections of timber, while for the New York World Fair of 1939 he evolved a Finnish exhibit with a serpentine wooden wall, evoking the curves and contours of the Finnish waterways and landforms. Utilitarian objects on display, such as skis and propellers, "showed how Finnish technology could fabricate forms of great functional elegance out of laminated timber, and were echoed in the rippling wooden slats of Aalto's structure."<sup>13</sup> As Curtis notes: "The solution to the problem of defining architecture of 'the new era' seemed, then, to lie in the *transformation* of such images as ships, automobiles, and aeroplanes into the symbolic forms of art."<sup>14</sup>

#### VILLA MAIREA AND AALTO'S "IRONIC FRAGMENTATION"

Aalto's Villa Mairea marked a stage in the development of modern architecture. Curtis states, for it rested upon the collective discoveries of the "heroic period" while transcending them with a new set of impulses.

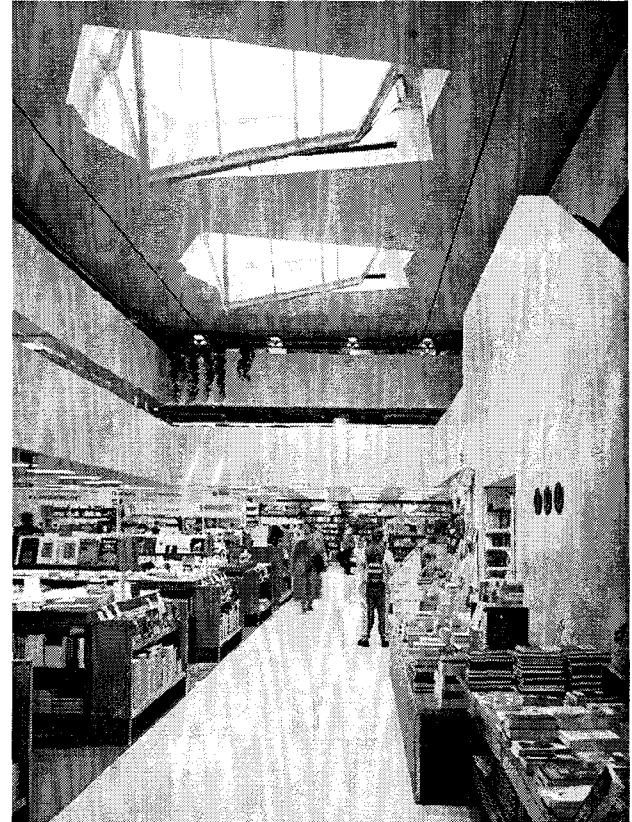


Fig. 3. Alvar Aalto, Academic Bookstore, Helsinki, Finland (1966-69), interior court.

"The formal disciplines of classicism, the philosophy and forms of the International Modern movement, and the perennial lessons of a regional vernacular all contributed to the synthesis, but its sources are utterly transformed. . . . The result was deeply related to ideas about the human condition, in which weathered materials, lyrical spaces, and magical effects of light produced a lasting primal poetry far beyond merely 'modern' concerns."<sup>15</sup>

Schildt points out that "no work of art lives through its parts but through the whole, which gives each part its own meaning."<sup>16</sup> Aalto's formal ideas, while not necessarily his own inventions, still convey a unique sense of originality and creative spontaneity. When "artistic influence" is discussed it should be remembered that all—or at least many forms in art have been used before. The same basic idea in two different works of art can have two totally different meanings; it is not a question of repetition but variation. Therefore, it is of little consequence that Aalto may have got his basic ideas for the Paimio Sanatorium from the Dutch architect Duiker's Zonnestraal Sanatorium, which he might have seen during his visit to Holland in 1928, as P.D. Pearson suggests.<sup>17</sup>

According to Aalto: "Architecture cannot disengage itself from natural and human factors; on the contrary its must never do so . . . Its function rather is to bring nature ever closer to us."<sup>18</sup>

The Villa Mairea is perhaps the most representative work of Aalto's shift toward "Romantic Modernism." It marks the transition towards greater sensitivity to the human figure moving through space, towards direct uses of materials, and towards ever more complex metaphors.

The Villa Mairea, built for Maire and Harry Gullichsen as a villa, guest-house, and retreat at Noormarkku, is organized as a series of layers with metaphorical structural themes that unfold as one moves from entrance, through interiors, to garden. Thus the courtyard solution and the irregularity of its plan form serves to diminish the total volume as perceived (Fig. 4). Quantrill stipulates that no other building by Aalto succeeds in merging so completely with the landscape.<sup>19</sup> Despite its rather large size for a residence, the family's accommodation on the ground floor is relatively simple, comprising an entry vestibule which leads up three steps into the main living area, a separate study, a garden room, and a long thin formal dining room off the living area. The main staircase rises out of this area to give access to the upper bedroom floor. At right angles to this family wing is a narrow service wing containing the kitchen and the servants' quarters.

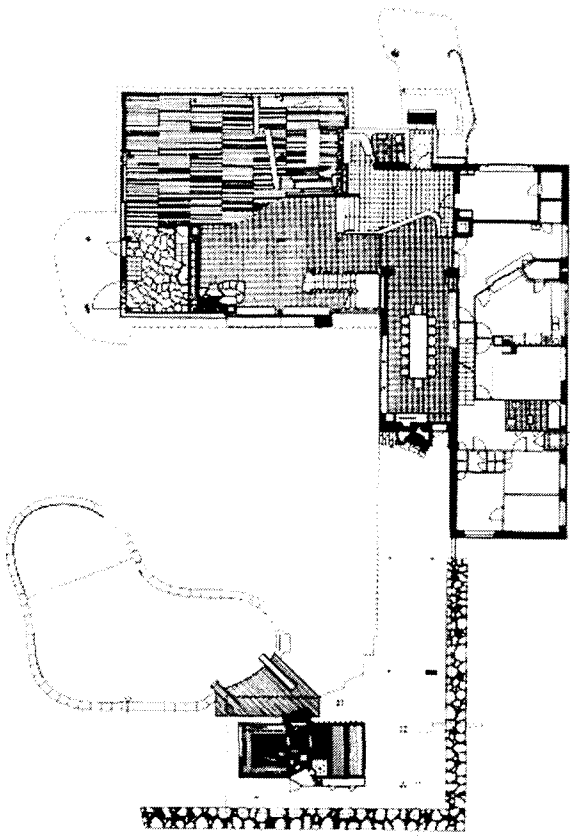


Fig. 4. Alvar Aalto. Villa Mairea, Noormarkku, Finland (1938-41), ground floor plan.

The living area (Fig. 5), including the study, comprises a large square which opens for most of one wall directly onto the garden, looking out towards the sauna. Not simply an open-plan

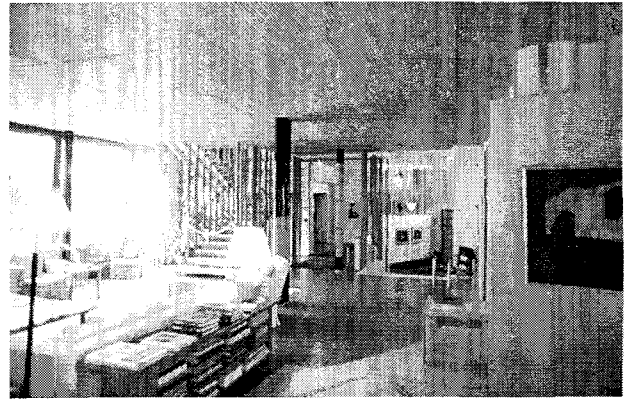


Fig. 5. Alvar Aalto. Villa Mairea, Noormarkku, Finland (1938-41), living room and stairs.

arrangement, the openness of the interior of the Villa Mairea is extended through to the outer "room" of the garden itself. Furthermore, the garden intrudes into the house, not as a piece of Finnish landscape, but a formalistic architectonic one of large-leaved tropical plants. The vertical "trellis" formed by the extended balustrade of the main staircase forms a subtle screen acting as a foil to this interior garden element and helps define an internal court. The trellis has a dual function. It merges the interior and exterior space as the screen of plants acts as a daylight filter. It also acts as a spatial fulcrum, the element upon which the living room turns the corner into the long, narrow dining room.

The influence of Cubist collage on the composition of the Villa Mairea has already been mentioned. According to Schildt, what Aalto discovered in Cézanne was a treatment of space quite unlike that that in other paintings governed by the conventions of linear perspective dominant in Western painting since the Renaissance. He observes that in Cézanne's paintings "space grows directly out of the forms placed on the canvas" where "individual elements with volume spread out towards the sides from an entirely modulated central zone." Cézanne is not interested in creating abstract space but instead concrete relationships between forms and volumes "creating an impression of space which is neither uniform nor unambiguously coherent."<sup>20</sup> Aalto's realized that architectural interiors could be treated in the same way.

Juhani Pallasmaa relates the architectural composition of the Villa to "a collage which brings together the emblems of international Modernism, personal inventions, and references to motifs of the anonymous rustic tradition."<sup>21</sup> Aalto employs a varied material palette of stucco, tile, wood, steel, and glass. He composes the facades by deliberately layering volumes, materials, and textures in a manner reminiscent of the Cubist collages of Picasso and Braque "suggestive of a natural organic life."<sup>22</sup> Instead of worshipping the *zeitgeist*, the Villa Mairea points simultaneously to the utopian Modernist future and the

indigenous heritage. With these dualistic associations, the building convincingly and beneficially attaches itself to the continuum of culture.

Venturi refers to a paradox inherent in perception and the very process of meaning in art: “the complexity and contradiction that results from juxtaposition of what an image is and what it seems.”<sup>23</sup> This ambiguous condition, noted by Joseph Albers as “the discrepancy between physical fact and psychic effect,” is evident in many of Aalto’s buildings. As he does in his later buildings, such as the Enzo-Gutzeit Headquarters and the Academic Bookstore, Aalto intentionally contrasts organic materials and detailing with modern machine-like elements. The combination of organic and mechanical details throughout the house reinforce an underlying polarity between the “artificial” and the “natural.”<sup>24</sup> Thus, the Villa Mairea also presents an almost complete vocabulary of Aalto’s unique architectural language, a language that depends for its expression upon what he himself describes as the “simultaneous reconciliation of opposites.”<sup>25</sup>

George Baird has pointed out Aalto’s “ironic fragmentation of ostensibly rational building geometries” in what Aalto intended was not the realization of coherent forms of architectural statements of a conventionally rational nature but erosion of the formal architectural landscape by the creation of a self-effacing morphology of “ruins.”<sup>26</sup> This seems to coincide with Curtis’ observations of “puns” juxtaposing the artificial and the natural. Aalto threads circulation “between steel tubular columns, concrete stanchions, wood posts, fences and the trunks of trees . . . through modern structural elements towards the casual rusticity of the sticks and pickets closing off the site to the rear.”<sup>27</sup>

## NATURE AND CULTURE

Norberg-Schulz writes: “The concept of existential space is based on the fact that any human action has a spatial aspect.”<sup>28</sup> Aalto’s architecture is a complex interweaving of functionalism and modern technology with an organic sensibility attuned to nature. His rejection of rationalism, which “aims at the representation of specific and unambiguous truths,”<sup>29</sup> led him to embrace a more pluralistic and symbolic architecture. An architecture which, as Eliade contends, seeks “to abolish the limits of the ‘fragment’ man is within society and the cosmos . . . and making him one with the rhythms of nature.”<sup>30</sup>

According to Norberg-Schulz, a work of architecture is always related to a specific situation, but it also has to transcend this situation and make it appear to be part of a more comprehensive, meaningful totality.<sup>31</sup> The elements of existential space are made manifest at different environmental levels. The level of landscape, for example, has generally been that of a ground on which the configurations of existential space have become

manifest. The landscape favors the development of places, and it indicates natural paths. As nature is not man-made, it keeps us at a certain distance and offers great but relatively undifferentiated experiences. The history of garden and landscape architecture illustrates attempts to make the forms of the landscape more precise, or to transform them to our own environmental image.

The archetypal image of Finland is of a glaciated landscape of forests and lakes. There are officially 187,888 lakes, and many more islands – 20,000 in the Turku archipelago alone.<sup>32</sup> Water covers roughly a tenth of the land area, sixty-five percent of which is forested. Thus, the landscape is experienced as a more or less continuous forest interspersed by the network of interconnected lakes, their outlines set in high relief by the surrounding trees; a landscape in which “space alternates between dark enclosure and sudden, light-filled release.”<sup>33</sup>

In the early 1930s Aalto introduced what was to become one of his favorite themes: “Nature, not the machine, is the most important model for architecture.”<sup>34</sup> Aalto was both fascinated with the potential of the machine and the promise of technology to transform society, “make order out of chaos,” and provide design with “a fixed point of departure.”<sup>35</sup> However, he was also cautionary:

“Technology has placed at our disposal machines which are far more effective than anything that ever existed in the past. We must devote increasing attention to designing them carefully, also with a view to hygiene, since not only their usefulness, but also their harmfulness increases at the same rate as their efficiency.”<sup>36</sup>

Schildt points out that Aalto’s affinity with nature had its roots in his childhood lakeland home, in his communion with the lakeland scenery, and in the idyllic small town in which he grew up. It was strengthened by the intellectual influence of his surveyor father and his forester grandfather. They both took a positivist view of technology and were in the vanguard of modernization of their time, but they did not take technology as an end in itself; it was a means to improve the quality of life.<sup>37</sup>

Weston notes that in the Villa Mairea, Aalto evokes the experience of the forest in several ways.<sup>38</sup> He varies the perimeter of the Villa, which ranges from solid, to part-glazed, to the full-height sliding glass screen into the garden, which runs between the fireplace and the main stair. Aalto then destroys the square of the living room by intruding it into the volumes of the garden room and the library treating their surfaces as “exteriors” of the rooms behind. Counter-pointing the continuous pine-strip ceiling with the varied materials and textures of the floor manifests the transition from natural forest to civilized dwelling. And, finally, Aalto creates a series of subtle but unmistakable formal analogies with landscape, such as the tree-like poles that screen the stairs.

Comparisons have been made also between Villa Mairea and two other famous Modern houses: the Tugendhat House (1928-30) (Fig. 6) and Villa Savoye (1928-31) (Fig. 7). Whereas each house is predicated on Modernist principles, which superficially suggests affinities to the International Style, there are more contrasts than similarities. Both the Tugendhat House and Villa Savoye are conceived as objects placed on the landscape, unlike the Villa Mairea, which is conceived as a composition of elements integrated into a natural setting. All three houses employ variations of the free-plan and integrate exterior and interior spaces. However, it is only the Villa Mairea in which a complete synthesis of interior and exterior spaces is actually realized resulting in both literal and phenomenal spatial transparencies. The famous disappearing glass wall of the Tugendhat House, while noteworthy for its technical elegance, simply opens the interior living areas to the exterior climate. Whereas the perimeter of the Villa Mairea is varied and complex, the perimeters of the Tugendhat House and Villa Savoye are taut and comparatively boxy.

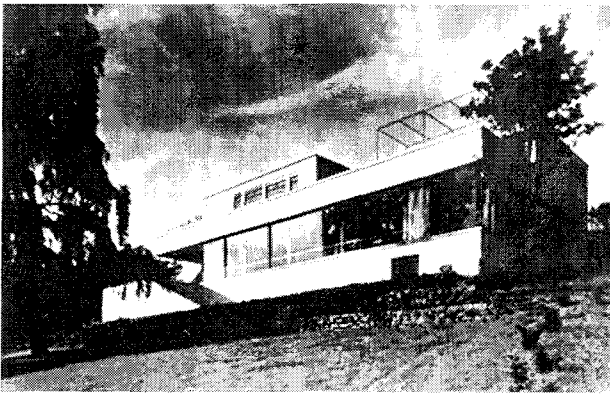


Fig. 6. Mies van der Rohe, *Tugendhat House, Brno (1928-30)*, exterior view.



Fig. 7. Le Corbusier, *Villa Savoye, Poissy (1928-31)*, exterior view.

In contrast to Mies, Aalto does everything he can to avoid what he called the “artificial architectural rhythms of the building.” Weston observes that he “is at such pains to subvert any clear geometric reading of the of the structural and organiza-

tion, that it comes as something of a surprise to discover that the whole plan is in fact regulated by a series of squares.”<sup>39</sup> The machine aesthetic that characterized many buildings of the 1920s and 1930s was already being subtly undermined and rigorously critiqued by the compositional and material strategies of Aalto’s villas.

## HARMONY AND PLACE

Venturi writes that he is “for richness of meaning rather than clarity of meaning” and that “a valid architecture evokes many levels of meanings and combinations of focus.”<sup>40</sup> The problem with Orthodox Modernist architects, he contends, was that in their attempt to break with the past, they idealized the primitive and elementary at the expense of the diverse and the sophisticated. Venturi seeks an architecture of totality that does not negate inner complexity at the expense of simplicity.

Aalto believed that harmony – to seek equilibrium, interaction, well being, and health – had always been our most important task. It was for the most part a utopian notion attainable in exceptional, isolated cases. Nevertheless, we have always had the need to envisage life’s harmony as a real possibility, and have therefore created historical myths, fantasies of places and times of perfect happiness. For Aalto, these myths included the classical myths of Antiquity and the Renaissance, as well as the images deeply rooted in his childhood experiences of the Finnish forest. Here the myth of Karelia, the Finnish folk epic, was set – a land where people lived in harmony with one another and their surroundings.<sup>41</sup>

## NOTES

<sup>1</sup> Göran Schildt, *Alvar Aalto: The Decisive Years* (New York: Rizzoli, 1986), p. 230.

<sup>2</sup> Richard Weston, *Alvar Aalto* (London: Phaidon Press, 1995), p. 227.

<sup>3</sup> Juhani Pallasmaa, “From Tectonics to Painterly Architecture,” *Alvar Aalto: Points of Contact* (Finland: Alvar Aalto Museum, 1994), p. 44.

<sup>4</sup> Robert Venturi, *Complexity and Contradiction in Architecture*, second edition (New York: The Museum of Modern Art, 1977), p. 16.

<sup>5</sup> William J.R. Curtis, *Modern Architecture Since 1900*, third edition (London: Phaidon Press, 1996), p. 349.

<sup>6</sup> Jan Söderlund, “The Tradition of Functionalism,” *Alvar Aalto vs. the Modern Movement* (Jyväskylä, Finland: Kustantaja Rakennuskirja Oy, 1981), p. 151.

<sup>7</sup> Colin St. John Wilson, “Alvar Aalto and the State of Modernism,” *Alvar Aalto vs. the Modern Movement* (Jyväskylä, Finland: Kustantaja Rakennuskirja Oy, 1981), p. 104.

<sup>8</sup> Schildt, *The Decisive Years*, p. 9.

<sup>9</sup> St. John Wilson, p. 104.

<sup>10</sup> Malcolm Quantrill, *Alvar Aalto: A Critical Study* (London: Secker & Warburg, 1983), p. 161.

<sup>11</sup> *Ibid.*, p. 163.

<sup>12</sup> Weston, p. 83.

<sup>13</sup> Curtis, p. 346.

<sup>14</sup> *Ibid.*, p. 169.

<sup>15</sup> *Ibid.*, p. 349.

<sup>16</sup> Schildt, *The Decisive Years*, p. 10.

<sup>17</sup> *Ibid.*, p. 11.

Schildt contends that "the plan of the Paimio Sanatorium has innumerable precedent solution patterns ranging from nature's way of creating starfishes to the organic medieval fortress conglomerates of the variation of the 90-degree system which the Art Nouveau architects devoted themselves at the beginning of the 20th century."

<sup>18</sup> Curtis, p. 346.

<sup>19</sup> Quantrill, p. 85.

<sup>20</sup> Göran Schildt, *Alvar Aalto: The Mature Years* (New York: Rizzoli, 1986), pp. 74-75.

<sup>21</sup> Pallasmaa, p. 41.

<sup>22</sup> Alvar Aalto, "The Influence of Construction and Materials on Modern Architecture," *Sketches*, p. 63.

<sup>23</sup> Venturi, p. 20.

<sup>24</sup> Curtis, p. 348.

<sup>25</sup> Quantrill, p. 90.

Quantrill identifies the following characteristics in Aalto's *oeuvre*: 1) a deliberate informality, or inverted formality, of the main entrance; 2) apparent freedom of planning that runs counter to classical axiality; 3) a complexity of massing or skyline that does not derive directly from the "footprint" of the plan; 4) the establishment of a deliberate conflict between the apparent geometrical system of ordering the façade and the overall rhythms or total "structure" of the façade as a whole; 5) a deliberate blurring of boundaries within both plan and three-dimensional form, so that the containment of an element is dissolved or destroyed; and, 6) the conscious confusion of parts of the building with the surrounding landscape.

<sup>26</sup> George Baird, *Alvar Aalto* (New York: Simon and Schuster, 1971).

<sup>27</sup> Curtis, p. 348.

<sup>28</sup> Christian Norberg-Schulz, *Meaning in Western Architecture* (New York: Rizzoli, 1980), p. 223.

<sup>29</sup> *Ibid.*, p. 222.

<sup>30</sup> Mircea Eliade, *Patterns in Comparative Religion* (Cleveland and New York: 1963), p. 188.

<sup>31</sup> Norberg-Schulz, p. 225.

<sup>32</sup> These figures are from Weston and are based on official statistics, although the actual numbers may vary.

<sup>33</sup> Weston, p. 124.

Weston points out that Sigfried Giedion established an intimate connection between Aalto's architecture and the Finnish landscape in *Space, Time and Architecture*. Weston argues, however, that the nature of the connection has remained, until recently, little explored beyond appreciation of his skill in site planning, and overworked analogies between the profiles of lakes and his favorite serpentine line. Norberg-Schulz dwells on phenomenological significance of the Nordic forest in *Genius Loci*. Pallasmaa has invoked Aalto's powerful concept of "forest space" and it is an underlying theme of Schildt's biography.

<sup>34</sup> Aalto's views on nature and technology were presented in an article written for the book *Arkitektur och samhälle (Architecture and Society)* brought out by the Swedish publisher Spektrum in 1932.

[From Schildt, *The Decisive Years*, p. 216.]

<sup>35</sup> From a lecture given by Sven Markelius to Finnish architects in 1928. [Quoted in Schildt, *The Decisive Years*, p. 216.]

<sup>36</sup> Alvar Aalto, *Iltalehii*, February 23, 1929.

<sup>37</sup> Schildt, *The Decisive Years*, p. 218.

<sup>38</sup> Weston, p. 88.

<sup>39</sup> *Ibid.*, p. 83.

<sup>40</sup> Venturi, p. 16.

<sup>41</sup> Schildt, *The Decisive Years*, p. 228.