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**A STUDY ON**  
**Alvar Aalto and His Experimentation in Villa Mairea**

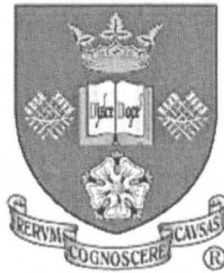
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**VOLUME II**

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**A Thesis Submitted for the Fulfilment of the Degree of  
Doctor of Philosophy in Architecture**

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**School of Architecture**  
**The University of Sheffield**

**THIS THESIS CONTAINS**

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### 5.3. Experiment with Reconciliation of Polarities

Even things that appear to be completely antithetical can be reconciled somehow or other. ... In every case, opposites must be reconciled. ... Only when ... all conflicts are resolved, can they contribute to continuity in time. (Aalto, 1955)<sup>109</sup>

Beauty today can have no other measure except the depth to which a work resolves contradictions. (Adorno, 1965)<sup>110</sup>

Whoever studies the Villa Mairea closely must be astonished at the abundance of architectural vocabularies. Many of them are heterogeneous, or even contradictory. Aalto juxtaposed various opposite elements in the house, indeed. Thus, one of the most frequently raised points concerning the Villa Mairea is Aalto's 'collage technique' as mentioned in a former chapter.<sup>111</sup> Pallasmaa (1985; 1986; 1998) labelled Aalto's juxtapositional method of contradictory elements as 'collage', relating it to Cubist art, and the term has been continually used in descriptions about Aalto and the house also by other writers since.<sup>112</sup> He (1985) claimed that the concept originated from Porphyrios (1982): 'The collage characteristics of Villa Mairea have been elaborated by Demetri Porphyrios in his *Sources of Modern Eclecticism*'.<sup>113</sup>

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<sup>109</sup> Aalto, A. (1955) 'Art and Technology', Speech given at Academy of Finland, October 3, 1955.

Published in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, pp. 171-176.

<sup>110</sup> Adorno, T. (1965) *Functionalismus Heute*, lecture given at the Deutsche Werkbund, Berlin on 23 October 1965. Published in English in Adorno, T. (1979) 'Functionalism Today', *Oppositions*, no. 17, Summer 1979, pp. 30-41. (translated by J. Newman and J. Smith from German)

<sup>111</sup> See 'Chapter 5.2.2. Space to Combine Art and Life'.

<sup>112</sup> In October 1986, Pallasmaa published an article under the title of 'Alvar Aalto: Image and Form – The Villa Mairea as a Cubist Collage' in [Studio International 200] on the basis of his paper presented at a symposium 'Alvar Aalto and Beyond' held at the Folk Art Museum of Los Angeles at the almost same time. Besides Pallasmaa, other people have been continually using the term 'collage' to explain Aalto's architecture: for example, Richard Weston's *Villa Mairea* (1992) and *Alvar Aalto* (1995), Scott Poole's *The New Finnish Architecture* (1992), Schildt's description in *The Architectural Drawings of Alvar Aalto 1917-1939*, vol. 10, *Villa Mairea 1938-1939* (1994), Markku Komonen's essay in *Alvar Aalto The Brick* (2001), etc. Schildt also used the term as early as 1986 in the second biography of Aalto in the description of Aalto's own house of Munkkiniemi: 'partly vertical weatherboarding providing a collage-like contrast to whitewashed brick surfaces' (p. 129). But the usage was not so enthusiastic as Pallasmaa's, and Schildt's opinion on the concept of 'collage' is a little different from that of Pallasmaa. See 'Chapter 5.2.2. Space to Combine Art and Life'.

<sup>113</sup> See 'NOTES (4)' of Pallasmaa, J. (1985) 'Villa Mairea-fusion of Utopia and Tradition', *Alvar Aalto: Villa Mairea*, GA 67, A.D.A. EDITA Tokyo Co., Ltd.

Porphyrios defined Aalto's ruling design tactics as 'the ordering sensibility of *heterotopia*' contrasted with Le Corbusier's and Mies's *homotopia* (1978; 1982). Borrowing Foucault's terminology (1973), he means by *heterotopia* 'the state of things laid, placed, assigned sites so very different from one another that it is impossible to define a locus common to them all'. His description of the Villa Mairea in terms of 'hybrid compositional principles and their respective metaphorical use'<sup>114</sup> might equally have been Pallasmaa's in using the concept, 'collage'. The collage technique is, indeed, a very fascinating idea, if we think of Aalto's unceasing reference to modern art as well as his ruthless mixture of dissimilar elements in the house. In a way, Pallasmaa's collage might be considered a softer or poetic version of Porphyrios's *heterotopia*. If the heterotopic sensibility 'discriminates between independent coherencies, while sustaining a cohesion between the parts only by default and through spatial adjacency',<sup>115</sup> the collage concept further implies 'the art of play'.<sup>116</sup> Aalto's play does not allow contradictions just to be contradictory, but reconciles them. His temperament is like that of a hilarious conductor who puts dissonant sounds together and orchestrates them into harmonised polyphony. It accords well with Aalto's own expression: 'In every case, opposites must be reconciled.'

Aalto's gestures to reconcile various opposites are found here and there in the Villa Mairea. As Duany (1986) analysed, we can sense the schematic device of 'head and tail' in the masses of

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<sup>114</sup> Porphyrios, D. (1982) *Sources of Modern Eclecticism*, Academy Edition, London, p. 58.

<sup>115</sup> *Ibid.* pp. 3-4.

Heterotopia, therefore, though by nature discriminatory, achieves cohesion through adjacency: where the edges touch, where the fringes intermingle, where the extremities of the one denote the beginning of the other, there in the hinge between two things an unstable unity appears.

<sup>116</sup> Aalto, A. (1953) 'Experimental House at Muuratsalo', *Arkkitehti*, No. 9-10. Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, p. 234.

Only when the constructive parts of a building, the forms derived from them logically, and our empirical knowledge is colored with what we might seriously call the art of play; only then are we on the right path. Technology and economics must always be combined with a life-enhancing charm.

That might be the reason that Pallasmaa (1985; 1986; 1998) always mentions Aalto's 'art of play' along with the collage technique. For more discussion about Aalto's play concept and Huizinga's *Homo Ludens* (Man the Player), see 'Chapter 5.3.3. Reconciliation of 'Geometric' and 'Organic'.

the house. Though 'head' and 'tail' are in opposition, they can supplement each other and keep a symbiotic relation because of the very polarity. In terms of spaces, the interior and exterior were so deliberately crossed that the boundary fades away as in Schildt's description (1984). In addition, there are 'hybrid compositional principles' raised by Porphyrios (1982). He pointed out the mixed structure, that is, the living room supported by columns while the service wing has load-bearing walls. This means that Aalto attempted an amalgamation of the conventional tectonics with the re-asserted modern structural rule by Corbusier. Besides these attempts at reconciliation of mass, space and structure, the Villa Mairea also shows another important synthesis of opposites. That is reconciliation of 'modern' and 'primitive'; 'Western' and 'Eastern'; 'geometric' and 'organic'; and 'masculine' and 'feminine'. If the former of each pair are 'theses' that were conventionally perceived as superior or more normal, the latter can be regarded as 'antitheses' that were easily neglected. Aalto put together the opposites side by side, because the juxtaposition is the starting point of the 'synthesis'. And then, each part's uniqueness is embossed by the contrast on the one hand, and some parts are inflected towards their opposites through transformation on the other. Nevertheless, the sharp dichotomy might be, in a sense, meaningless to Aalto who had a deep insight to make the two poles meet, and that is why he tried to reconcile opposites in every case.

### 5.3.1. Reconciliation of 'Modern' and 'Primitive'

All that is needed is the will to be absolutely honest with ourselves and see whether we, too, do not retain something of the 'primitive' in us. (Gombrich, 1989)<sup>117</sup>

The most easily noticed fusion in the Villa Mairea is that of 'modern' characteristics with 'primitive' ones.<sup>118</sup> This is a chronological contrast, which becomes clear if we see the Latin origins of the words: 'prīmus', the etymon of 'primitive' means 'first' or 'earliest', whereas 'modo', that of 'modern' means 'just now' or 'lately'. But it is also metonymy of more extensive implication: international (or International) and vernacular; artificial and natural; and industrial and handicraft,<sup>119</sup> although they cross each other in most cases. Since Descartes's *cogito ergo sum*,<sup>120</sup> man's absolute trust in reason has made possible rapid scientific and technological developments, and mass production has been promoted using machinery. Despite some resistance such as the English Arts and Crafts Movement and its influences, tradition was regarded by orthodox modern architects as something to be overcome because of its lack of *Zeitgeist*. Under the circumstances, Le Corbusier's 'new architecture' was proclaimed in 1923,<sup>121</sup> CIAM (Congrès Internationaux d'Architecture

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<sup>117</sup> Gombrich, E. H. (1989) *The Story of Art*, Phaidon, Oxford, p. 20.

<sup>118</sup> Author has presented a paper about primitive characteristics of the Villa Mairea at a conference titled 'PRIMITIVE' in Cardiff University in September 2004. The main points of the paper were: firstly, first-hand natural materials and vernacular tectonic methods; secondly, interior spatial concept – the multi-functional living room as a modern *tupa*; and thirdly, the elemental images of ancient philosophy – earth, water, air and fire. See Kim, H. S. (2004) 'Modern Application of the 'Primitive''. In: Odgers, J. et al. *Primitive: Abstracts of the 2004 International Conference held at Welsh School of Architecture, Cardiff University, September 15-17* (ISBN 1-899895-35-3). Cardiff, Cardiff University, p. 42.

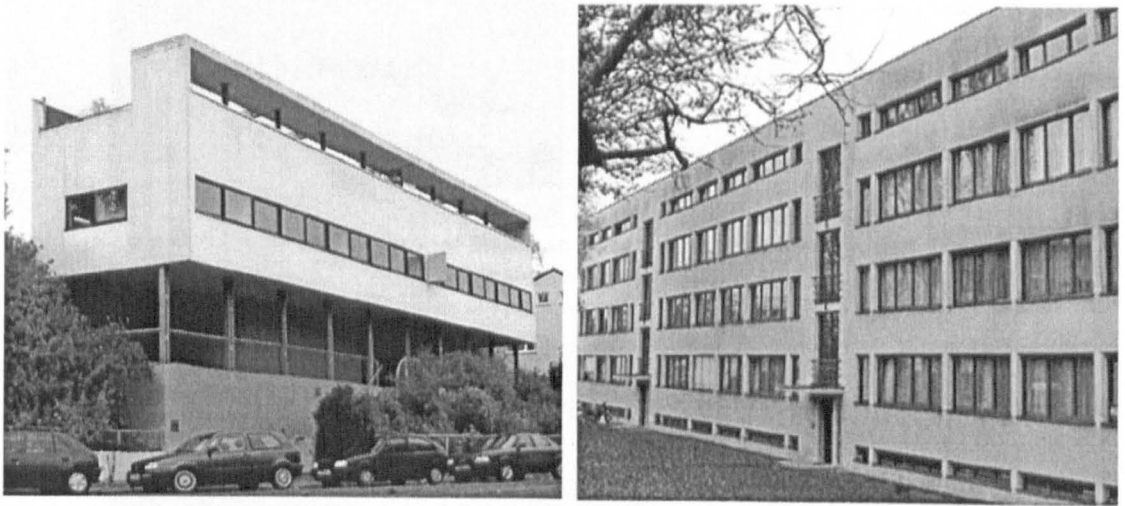
<sup>119</sup> According to [The Oxford Companion to Art] (1970), the term 'primitive' has three different meanings. First, it was frequently applied 'to peoples outside the direct influence of the great centres of civilization on the mistaken "evolutionist" assumption' at the end of the 19<sup>th</sup> century. Second, it means 'early phases within the historical development of painting or sculpture in the various European countries', and, in particular, the art before the Renaissance. Third, the term implies 'a way alien to the academic, traditional, or *avant-garde* manner' and 'a highly idiosyncratic naivety'. Osborne, H. (ed.) (1970) *The Oxford Companion to Art*, Clarendon Press, Oxford, pp. 924-925.

<sup>120</sup> Descartes, R. (1968) *Discourse on Method and the Meditations*, Penguin Books, London

<sup>121</sup> Le Corbusier (1923) *Vers une Architecture*, Editions Cres, Paris. Although the French title does not have 'new' – direct translation is [Towards an Architecture], his concept was undoubtedly 'towards a new architecture'. And it had already been publicly expressed in the title [L'Esprit Nouveau] – of which articles composed [Vers une Architecture] – and in the principle, 'Five Points of a New Architecture'.

Moderne) was founded in 1928 and the 'International Style' was born in 1932.<sup>122</sup> From the Turun Sanomat building in 1928, Aalto showed a strong interest in the new movement, whose influence also shows in the Paimio Sanatorium (1929-33). Particularly his friendship with some important Modernists like Giedion, Corbusier, Gropius and Moholy-Nagy, following his first participation in the 2<sup>nd</sup> CIAM of 1929 brought, Aalto in close contact with international modernism. However, he could not toe the line of orthodox modernism owing to his unbound personality, and instead he 'moved away farther and farther from Rationalism'.<sup>123</sup> Nonetheless, he juxtaposed International Style elements and vernacular ones intentionally in the Villa Mairea, which indicates Aalto's mind as a mediator of the two. That is to say, Aalto strongly argued here that 'modern' elements can harmonise with 'primitive' ones, and proposed a reconciliation of the polarity.<sup>124</sup>

[Fig. 5-74] Le Corbusier's house (left) and Mies's apartment block (right) of Weissenhof Siedlung Exhibition in 1927, an important event for the birth of the 'International Style'



<sup>122</sup> Henry-Russell Hitchcock and Philip Johnson organised an architectural exhibition in the Museum of Modern Art, New York in 1932, and they published a book titled [The International Style: Architecture since 1922], which spread widely the term and concept of 'International Style'.

<sup>123</sup> Schildt, G. (1986) *op. cit.* p. 18. Aalto himself described about Rationalism like the following: 'It is not the rationalization itself which was wrong in the first and now past period of Modern architecture. The fault lies in the fact that the rationalization has not gone deep enough.' Aalto, A. (1940a) 'The Humanizing of Architecture'. Republished in Schildt, G. (ed.) (1997) *op. cit.* pp. 102-106.

<sup>124</sup> We can perceive the combination of the primitive and the modern in Asplund's summer house (1937), too. See 'Chapter 4.3. Asplund's Summer house at Stennäs, 1937' and Blundell Jones, P. (1988a) 'House at Stennäs, Masters of Building/ Asplund', *Architects' Journal*, 20 January 1988, pp. 43-45.

[Fig. 5-75] Influence of the International Style on Aalto: Turun Sanomat building, 1928 (top) and Paimio Sanatorium, 1929-33 (bottom)



The most conspicuous element of the International Style is white plastered exterior walls.<sup>125</sup> However, in the Villa Mairea this white body is partly guarded by timber cladding masses like those of the living room and the studio. Most of all, if we closely look at the white wall, we

<sup>125</sup> Of course, it is the effect of black and white photos. Many buildings regarded as belonging to the International Style were in fact not white but just lightly coloured.



can soon recognise that the finish of the wall is different and of three types. Firstly, the walls of the master bedrooms have plain white surfaces, which correspond to the international modernism. But except in that part, most of the walls have uneven surfaces, because the white plaster does not make any attempt to conceal the brick materiality. This finish of wall appears in the interior space as well. But it is different here again since the concavity and convexity of the brick layers was more clearly presented despite the whitewash. So, it looks as if the wall is composed of exposed white bricks. It must be due to Aalto's sensitivity to material that he created different reliefs on the same-whitewashed wall. And the second and the third treatment of wall surfaces reflect Aalto's longing for Mediterranean villages with white walls. However, I argue that it must be also Aalto's intentional transformation of the International Style to reconcile it with the old material. Discussing these uneven treatments, Simo Paavilainen (2001) noted: 'Not as cool and theoretical as the Siedlungs of the continent, but it is warmer and more substantial. Abundant creepers are also an important feature of the façades.'<sup>126</sup>

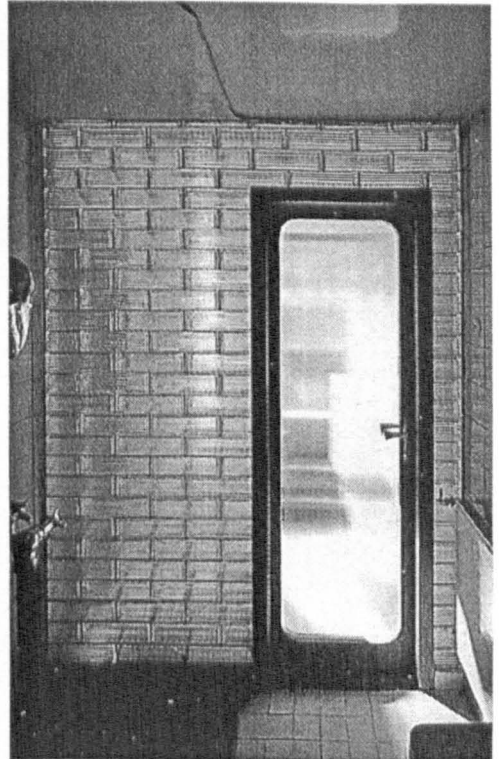
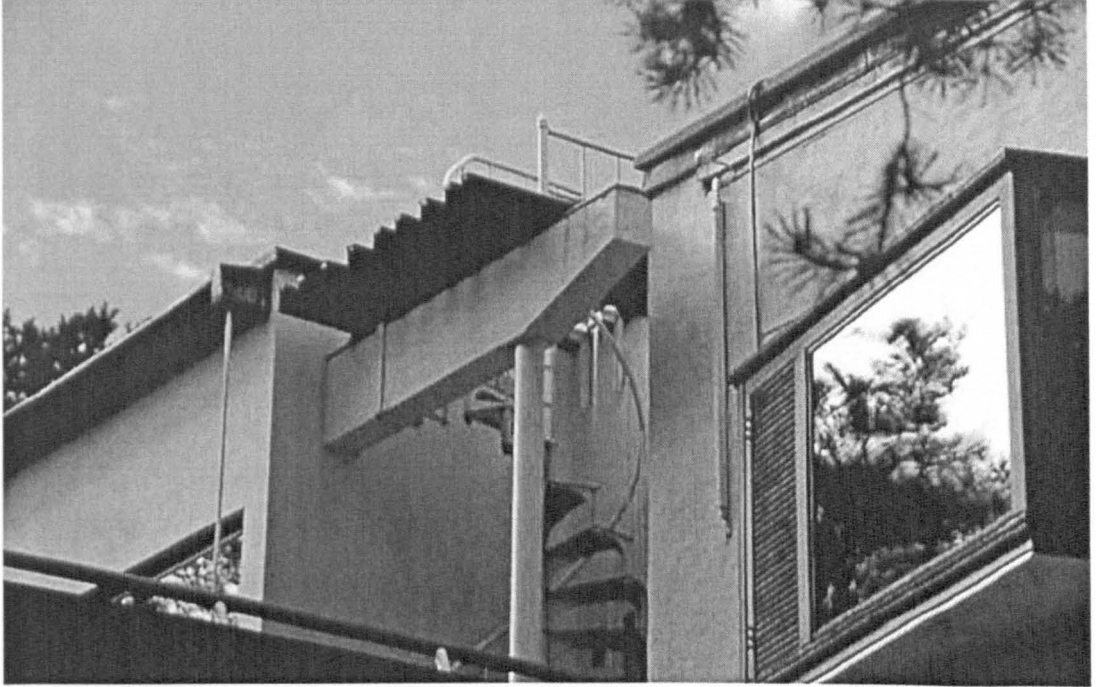
**[Fig. 5-76] White plastered exterior wall partly guarded by timber cladding masses**



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<sup>126</sup> This appraisal is originally on the Engineers' Terrace House (1937-38) in Sunila, but also applied to the Villa Mairea in the same way. Paavilainen, S. (2001) 'Alvar Aalto – Modernist in Brick'. In Sippo, H. (ed.) (2001) *Alvar Aalto: The Brick*, Alvar Aalto Museum, Alvar Aalto Foundation, Helsinki, p. 47.

[Fig. 5-77] International Style elements of modern steam-liners in Villa Mairea: spiral stair (top), steel pipe handrail on the roof that also shows a dry garden with stepping-stones of Japanese tone (bottom left) and master bathroom glass wall with a door reminiscent of round-cornered cabin doors (bottom right)

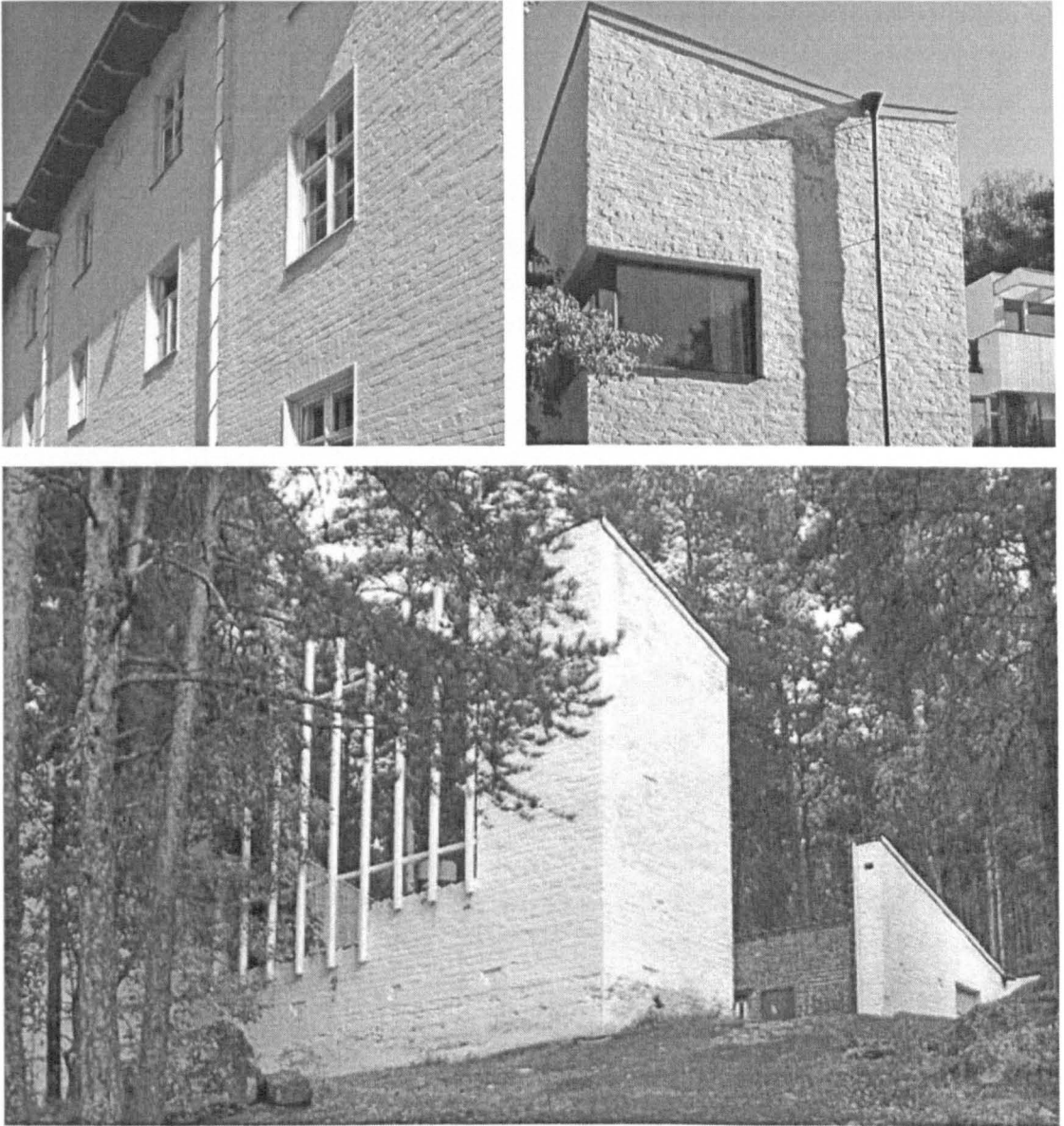


[Fig. 5-78] Different reliefs on whitewashed walls: uneven finish of northeast façade (top) and interior wall of living room that clearly reveals the brick layers (bottom)





[Fig. 5-79] Thin render on whitewashed walls: Aira building in Jyväskylä, 1924-26 (top left), Aalto's own house in Muunkiniemi, 1934-36 (top right) and Aalto's summer house in Muuratsalo, 1953 (bottom)



In fact, his relatively early work, the 'Aira' apartment block (1924-26) in Jyväskylä already had a thinly rendered brick surface, and the thin rendering had been prevalent in many Scandinavian buildings since 1910s. The Swedish historian Björn Linn sent me an authoritative comment on it.

This thin rendering can be seen on a number of Scandinavian buildings, especially Swedish and Finnish ones, from the 1910's and 20's. Characteristic examples are a number of housing blocks, on a larger scale than the conventional single-plot house; this is a significant building type from this period, when the general trend toward larger projects which would facilitate better plans than the old cramped ones began to be implemented thanks to cooperative and communal undertakings. One of the first of these treated with the thin rendering is a building by Cyrillus Johansson in the southern suburbs of Stockholm, ca 1914-15. From about the same time Georg A. Nilsson, leading Swedish specialist of school buildings, began to use the same type of rendering and continued for more than ten years. Generally these are rational buildings with regular window patterns in smooth façades. In comparison, Westman's Law Courts is rather untypical in its massive heaviness. It was finished in December 1915; almost exactly contemporary (March 1916) is Carl Bergsten's Liljevalch Art Gallery in Stockholm, the building which is generally regarded as heralding the epoch of "Swedish Grace" in its light, classically disciplined elegance.<sup>127</sup>

Differently from Aalto's, however, the usual rendering at that time had colours. Aalto revealed the materiality of brick walls following the Scandinavian trend of 'material realism',<sup>128</sup> but used white plaster to reconcile it with the International trend of *tabula rasa*.

You must note that generally all these buildings are done with a coloured plaster, in other words, not painted after the rendering. The reason for going over to this treatment is the interest in letting materials and crafts act as expression-bearers of the new buildings, in revolutionary opposition to the precision-drawn forms of the academic 19th century where the drawing was understood as the primary medium - now the building itself steps into that role in its substantial reality. ... But there were rather close exchanges between Swedish and Finnish colleagues.<sup>129</sup>

After a short sojourn at the International Style of *tabula rasa* as in the Paimio Sanatorium

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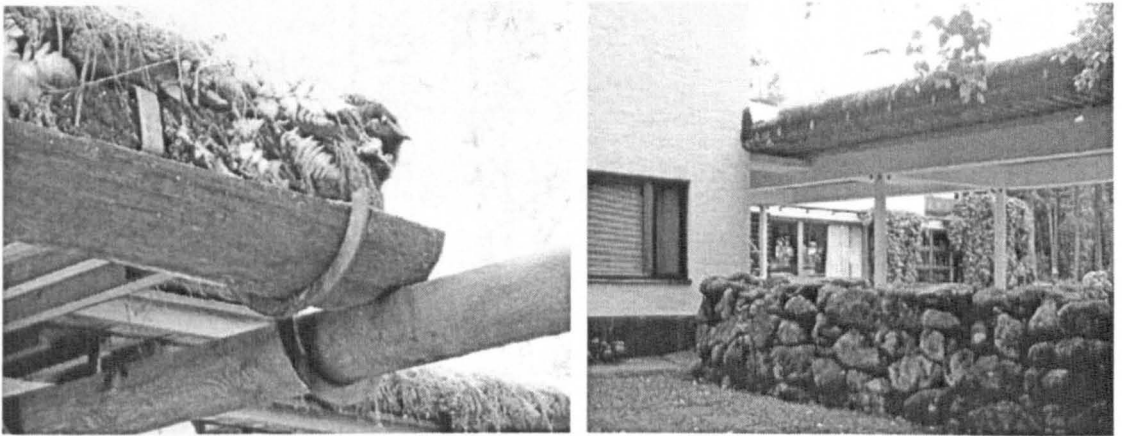
<sup>127</sup> Linn, B. ([linn.linn@swipnet.se](mailto:linn.linn@swipnet.se)) (13 January 2005) *Re: about a thin render on brick walls*. Personal email to H.S.Kim ([arq00hsk@sheffield.ac.uk](mailto:arq00hsk@sheffield.ac.uk)).

<sup>128</sup> Rather than the label 'National Romanticism', Linn persists in using this term. See note 14 in Chapter 4.1.

<sup>129</sup> *Ibid.*

(1929-33), Aalto started designing again the uneven white wall from his own house (1934-36) in Muunkiniemi. As good experimentation, the various treatments of the whitewashed wall surface in the Villa Mairea let him apply similar finishes extensively to his later works, and his Muuratsalo summer house (1953) is one good example of it. Besides the white wall, the Villa Mairea contains very typical International Style elements, such as, the spiral stair and the steel pipe handrail on the roof, and round-cornered cabin doors near the spiral stairs and the master bedroom, which allude to modern steam-liners that many architects at that time tried to imitate. It clearly verifies that Aalto did not wholly deny the main trend of the international modernism. Nonetheless, he never forgot to insert many vernacular elements at the same time to balance it.

[Fig. 5-80] Rustic gutter joint (left) and vernacular stone wall (right)

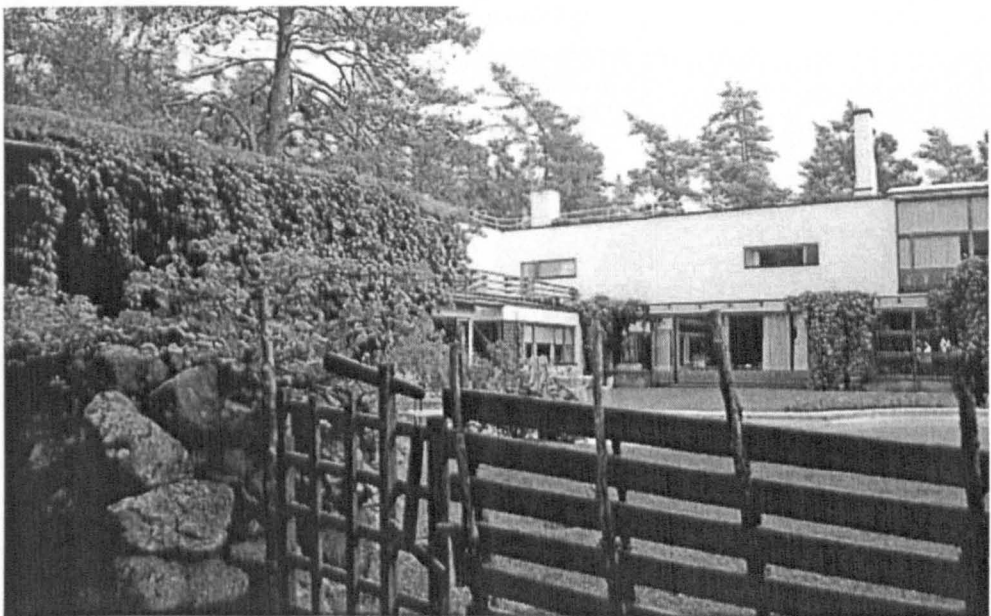
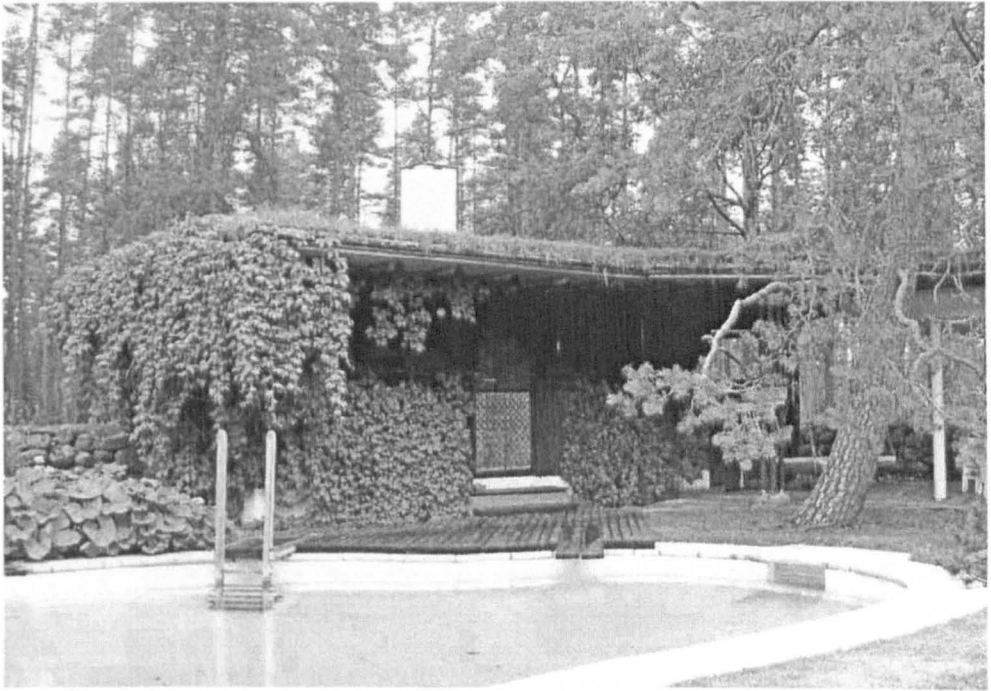


Examples of this are the sauna hut, the stone wall around it, the wooden poles of the entrance canopy and terrace, the rustic joints of wood structures in the terrace, the Swiss farm gate<sup>130</sup> between the sauna and the hillock, the slate paving, and the timber railings on the dining room roof. Among them, the rustic sauna hut could be regarded as the most typical Finnish factor showing the characteristics of traditional farmsteads, though Aalto transformed it in his own

<sup>130</sup> This gate was from a sketch book of Aalto's assistant architect, Paul Bernoulli, who was from Switzerland. Pallasmaa, J. (1998) 'Image and Meaning'. In Pallasmaa, J. (ed.) (1998) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, pp. 94-95.

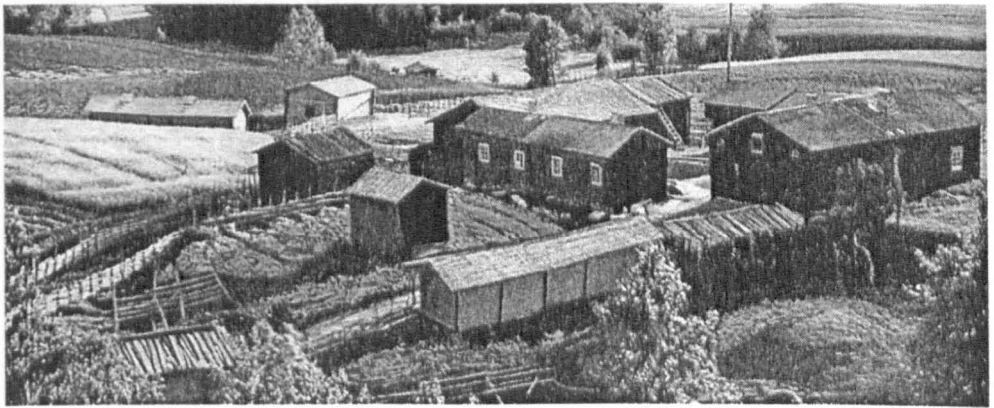
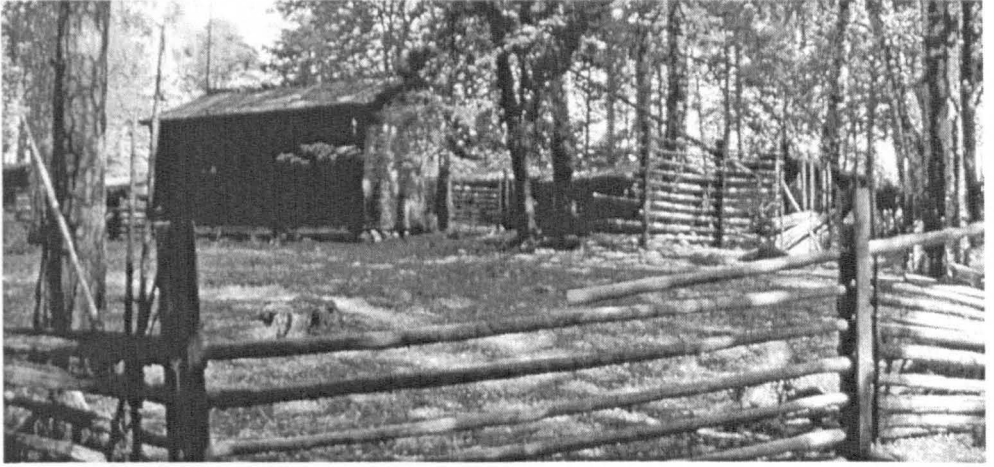
way with a flat roof and with a subdivided entrance door. And the stone wall is reminiscent of that of medieval church. Particularly, the balustrade of the terrace above the dining room, which alludes to the wooden fence of Finnish rural farmsteads, combined rustic timber with steel railings. These things show the clear mixture of vernacular features with modern ones.

[Fig. 5-81] Sauna hut (top) and Swiss farm gate behind the sauna (bottom)

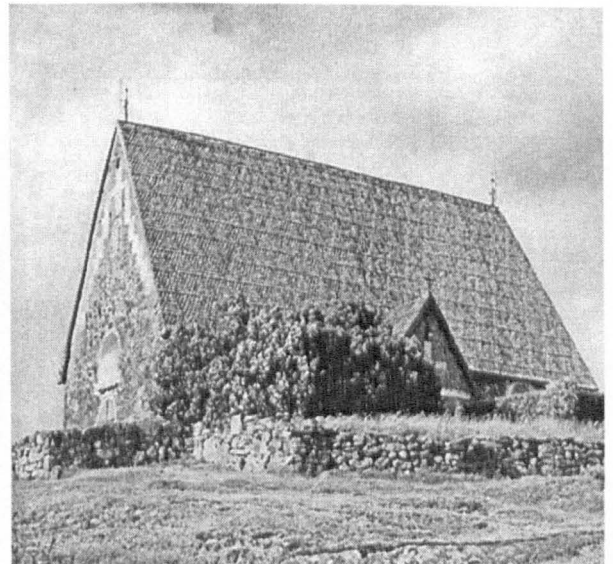




[Fig. 5-82] Finnish rural farmstead: Niemelä farm (top) and Korpilahti farm (bottom)



[Fig. 5-83] Medieval church stonewall: Karuna church at Seurassari (left) and Tyrvää church, 15C (right)



**[Fig. 5-84] Balustrade of rustic timber and steel railings on dining room roof**

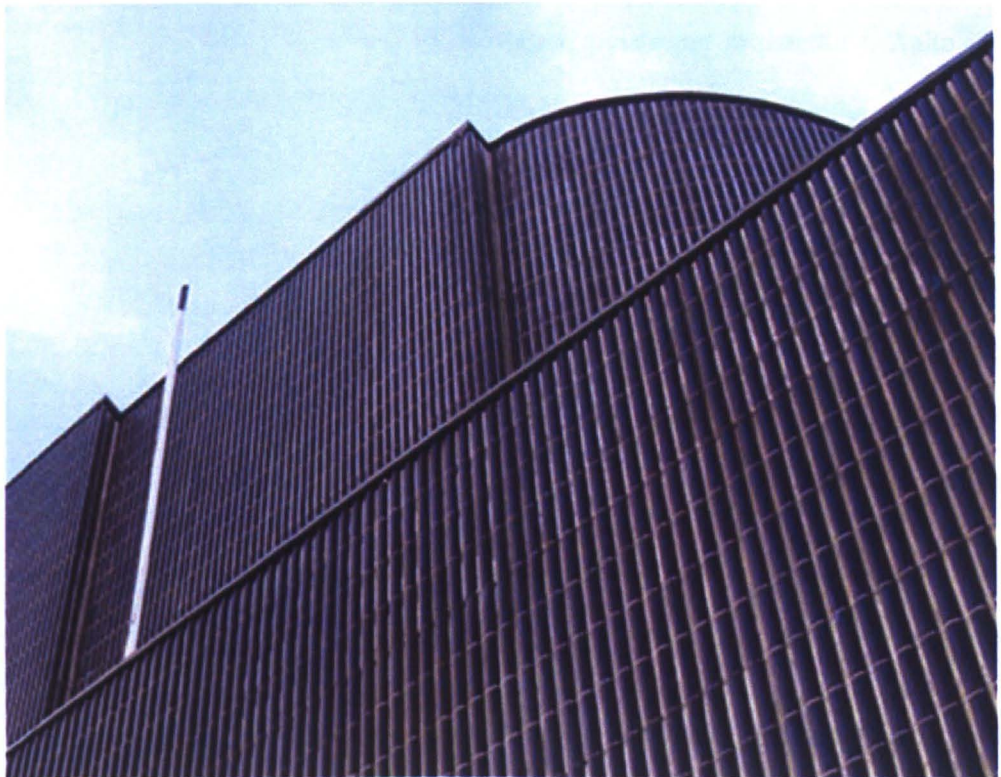
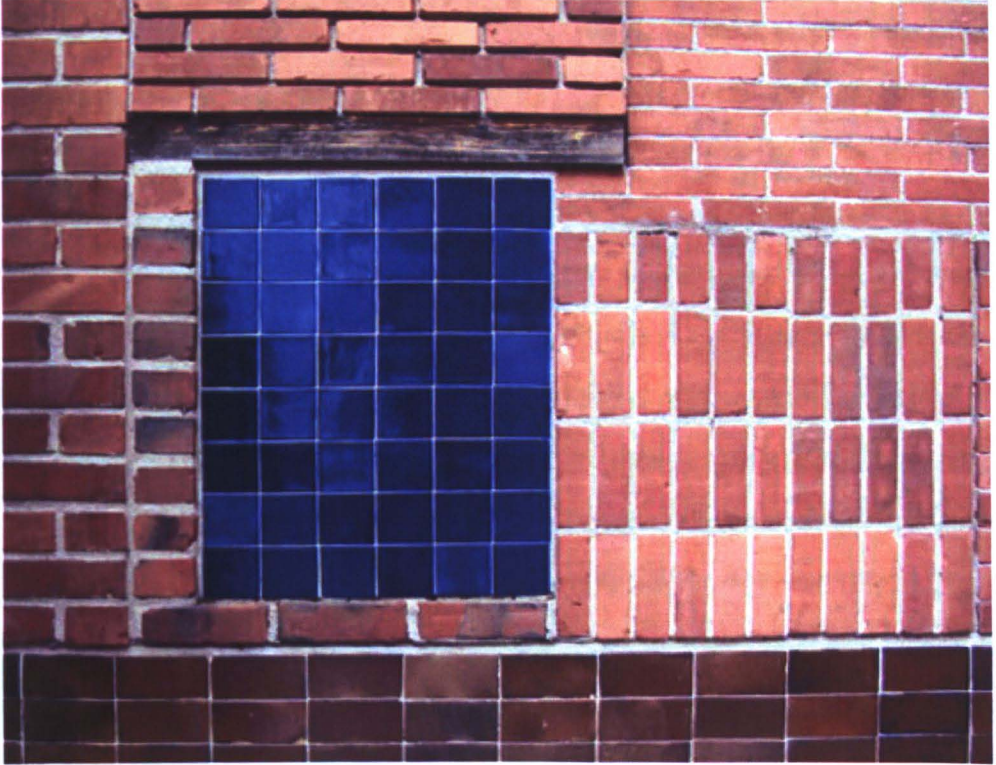


**[Fig. 5-85] Contrast of materials: dining room corner (left) and main fireplace (right)**





[Fig. 5-86] A patch of tiles among brickworks in Aalto's Muuratsalo summer house, 1953 (top) and Seinäjoki Town Hall covered with dark blue tiles, 1961-65 (bottom)



It has been said that the most salient contrast of 'artificial' and 'natural' is seen in the corner of the dining room, which has rustic stone stairs with a fireplace and a dark blue tiled wall.<sup>131</sup> The former could be regarded as a direct adoption of natural material, whereas the latter is an artificial factory product. Originally, the blue tiles were suggested and strongly insisted on by Maire Gullichsen, who even showed a watercolour sample to explain the colour.<sup>132</sup> As a result, the black stone and the blue tiles give here strong impression of harmonising with each other, with the backdrop of white steel columns and wall and with a brown wooden handrail. The same blue tiles were later used again in Aalto's Muuratsalo summerhouse (1953) in the same way, that is, very heterogeneously in the midst of red brickwork, and in the Seinäjoki Town Hall (1961-65), much darker tiles covered most of its surface. The artificial manner of the blue tiles is related to that of glass blocks in the northeast exterior wall, because one small patch of the glass blocks is solely isolated from the surrounding white wall (Fig. 5-78). These glass blocks appear again as whole one-side walls in the kitchen and the master bathroom (Fig. 5-77). If the blue tiles and the glass blocks are the most salient 'artificial' elements to be seen in the Villa Mairea, the air conditioning system in the living room is a hidden 'artificial' element, which was highly developed technological equipment at that time. Aalto himself mentioned it proudly in his description of 'Mairea':

Ventilation of the large living room was arranged by using the pine panelling fixed under the concrete ceiling as a filter (it contains 52,000 vents) that distributes clean air evenly throughout the room. Most of the building has a system of air conditioning, which also provides some of the heating.<sup>133</sup>

This 'active' ventilating and heating system forms a striking contrast to the turf roof on the

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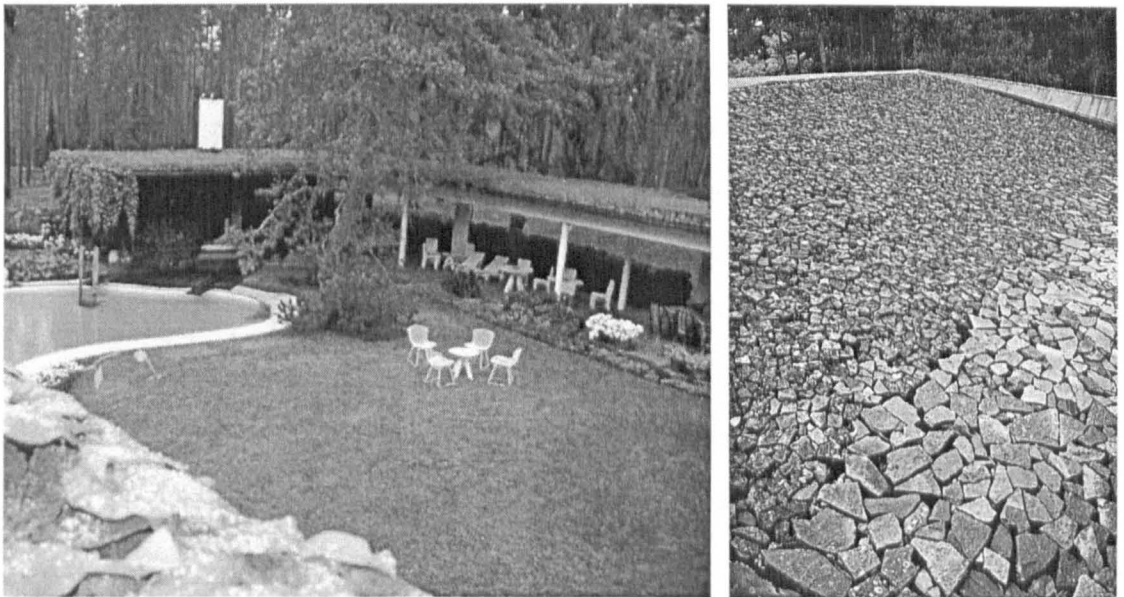
<sup>131</sup> Weston, R. (1992) *Villa Mairea*, Architecture in Detail, Phaidon, London, and (1995) *Alvar Aalto*, Phaidon, London

<sup>132</sup> Even, the tiles were imported from Denmark. Pallasmaa, J. (1998) *op. cit.* pp. 72-73.

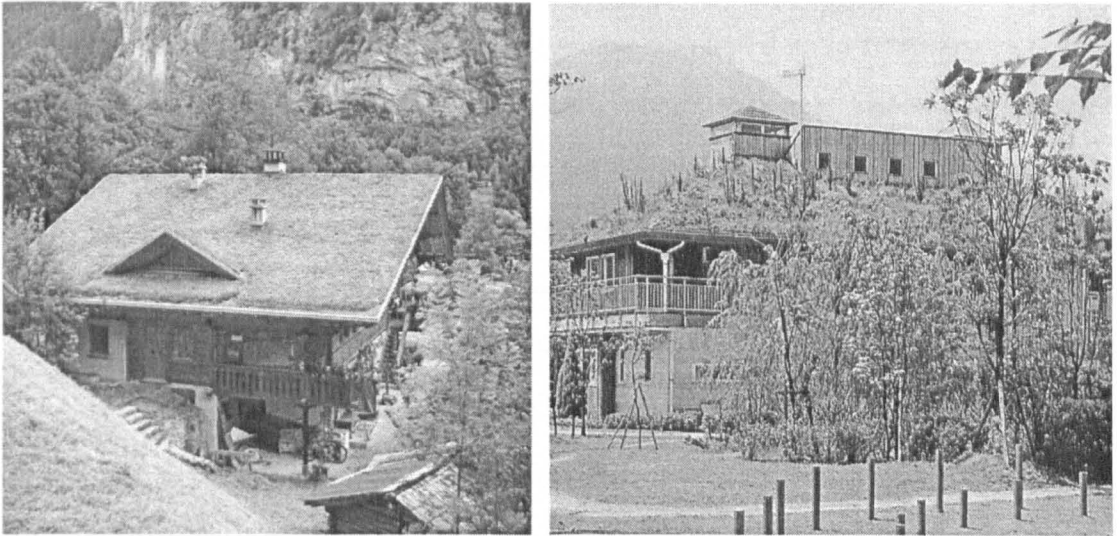
<sup>133</sup> Aalto, A. (1939b) 'Mairea', *Arkkitehti*, no. 9. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, p. 230.

sauna wing, because it hinted at one example of ‘passive’ energy systems that became much discussed in the time of ‘sustainable architecture’. It is not certain whether or not Aalto had any intention regarding energy here; the house proposes two types of different energy systems. Apart from the technological issue, the turf roof itself has the most ‘natural’ image in the house among many others – which are almost the same features applied to the ‘vernacular’ ones above. By choosing earth and turf as the material for the roof, he went back to primitivity. In particular, the image illustrates the trace of time just as we can imagine the scene of rank weeds in a desolate house. In point of fact, it is a return more to nature rather than to the old past, because nature, without regard to chronology, is always beside us and it is where we have to return in the long run. Also, it is interesting to notice the turf roof’s contrast with the gravel roof of the main house body. On the other hand, there is a similar contrast of ‘blue tile vs rustic stone’ in the interior space. It is in the main fireplace of the living room, which was made up of rustic slate in the bottom and white plastered wall in the upper part, and the floor was laid with red tiles. On the white body of the fireplace, Aalto added a sculptural indentation, which gave the hearth an ‘artificial’ accent to allude to a ‘natural’ metaphor.

**[Fig. 5-87] Turf roof on sauna and terrace area (left) and gravel roof on studio (right)**



[Fig. 5-88] Turf roofs on a chalet in Alps (left) and on an experimental house for ‘sustainability’ at Earth Sweet Village in Kitakyushu, Japan (right)



The contrast and reconciliation of ‘artificial’ and ‘natural’ continually succeeds that of ‘industrial’ and ‘handicraft’ in the Villa Mairea. Modernism was based on industrialism, and the industrialism meant mass production. It is no exaggeration that mass-produced materials enabled the modern architectural movement. Under this situation, the English Arts and Crafts Movement started in the mid 19th century ‘to re-establish a harmony between architect, designer and craftsman and to bring handicraftsmanship to the production of well-designed, affordable, everyday object’,<sup>134</sup> and it spread into America and European countries. Among these countries, the Finnish response was unique and active with their ‘National Romantic’ mood and mythical *Karelianism*. Opened in 1871, the School of Arts and Crafts in Helsinki aimed at promoting not just craft but also its industrialisation.<sup>135</sup> It already suggested that industry is not an enemy of craft, but they can exist together in peace, even though the first pioneers of the Arts and Crafts Movement – Ruskin and Morris – had a hatred of machine production. This kind of thought must have overflowed in Aalto’s mind. We can see evidence of it in his furniture, glassware, and lamp designs, because they have the characteristics of

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<sup>134</sup> Cumming, E., Kaplan, W. (1991) *The Arts and Crafts Movement*, Thames and Hudson, London, p. 6.

<sup>135</sup> *Ibid.* p. 180.



handicraft and mass production at the same time. He started designing chairs as early as 1927, his Jyväskylä period, and the Artek company was founded in 1935 to promote them. And, his glass vases first designed for a Scandinavian glassware competition in 1936 became famous through use at the Savoy Restaurant in Helsinki, 1937.<sup>136</sup> The Villa Mairea also has these chairs, lamps and glass vases. Particularly, the fact that Maire and Harry were the co-founders of the Artek company explains the close relationship of the house with the mass produced furniture. Indeed, when the house was exhibited at the Museum of Modern Art in New York in 1938 before its completion, the displayed photographs showed some Aalto furniture around the fireplace, according to Maire's account.<sup>137</sup> However, the role of furniture in the Villa Mairea and in Aalto's whole career is much more significant than that. Furniture design enabled Aalto to test materials, especially wood, which gave him an insight into the material's texture, constitution and elasticity. We see his experimental spirit in some wood sculptures (see Fig. 5-41 top right and bottom left), which are often displayed in the entrance hall of the Villa Mairea. Most of all, the experimentation of laminated bent wood for chair legs was unique<sup>138</sup> and it became a trademark of Aalto furniture, and very importantly, it was applied to his architectural designs, too. In the Villa Mairea, the delicate wood treatments – rough and sleek finish of wooden poles, rattan binding and pine slats, curved shape of wood like the first step in the main staircase and bent wood shelf beside the staircase, and the like – were all the result of insight from experiments in furniture design. The free-formed swimming pool alludes to his glass vases as well as to natural Finnish lakes. In addition, door handles of different forms show Aalto's craftsmanship at its best. Some are sculptured wholly in bronze, and others are clothed in leather. Despite the different types, all are shaped to fit the human hand, and they are of craft on the one hand and industrial on the other. That is to say, there is

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<sup>136</sup> Pearson, P. D. (1978) *op. cit.* pp. 166-167.

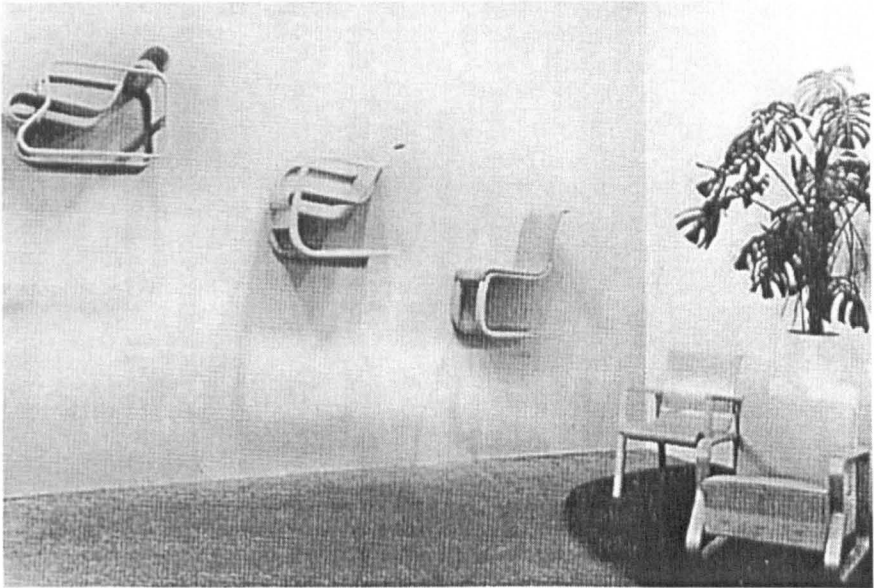
<sup>137</sup> Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, Rizzoli, New York, p. 174.

<sup>138</sup> His bent wood chair was partly influenced by bent metal pipe chairs by central European designers, but in fact there had already existed bent wood furniture, such as Michael Thonet's furniture of steam-bent wood, and A. M. Luther company's plywood furniture. And Eliel Saarinen had also known and experimented bent wood furniture. Pearson, P. D. (1978) *Alvar Aalto and the International Style*, Whitney Library of Design, New York, pp. 141-145, 231. However, Aalto's bent wood furniture became more popular in relation with his curvilinear architectural elements.



no special border between craftsmanship and industrialism in Aalto's detail, but rather they support each other. This is the way of Aalto. He showed us to keep craftsmanship while simultaneously promoting industrialisation.

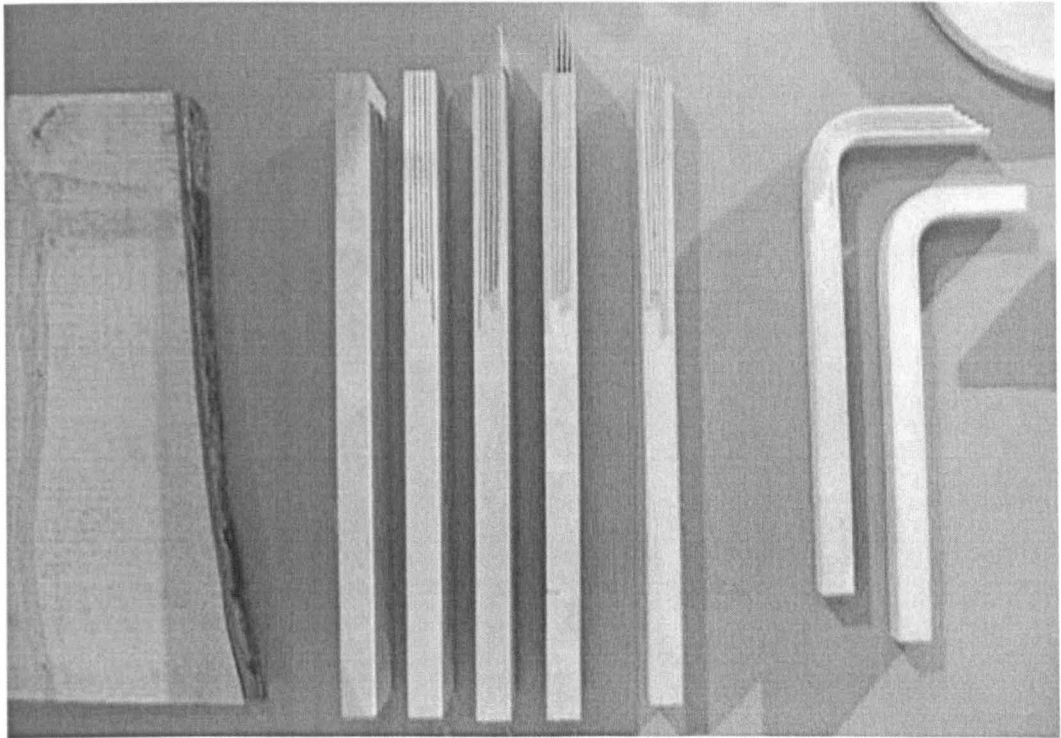
[Fig. 5-89] Alvar Aalto Exhibition at Museum of Modern Art in New York, 1938



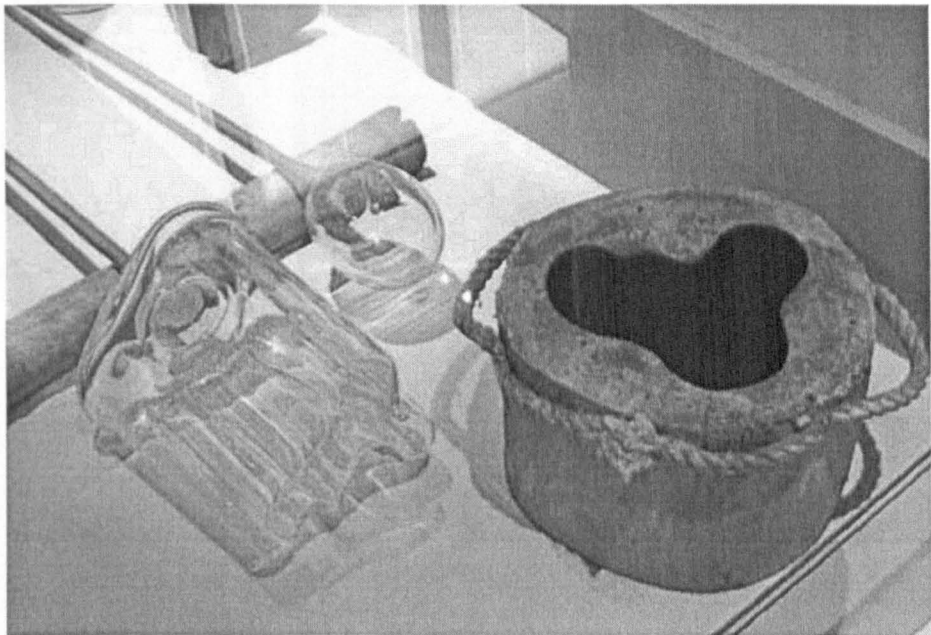
[Fig. 5-90] Wood bending tool, Alvar Aalto Museum



[Fig. 5-91] Wood bending process, Alvar Aalto Museum



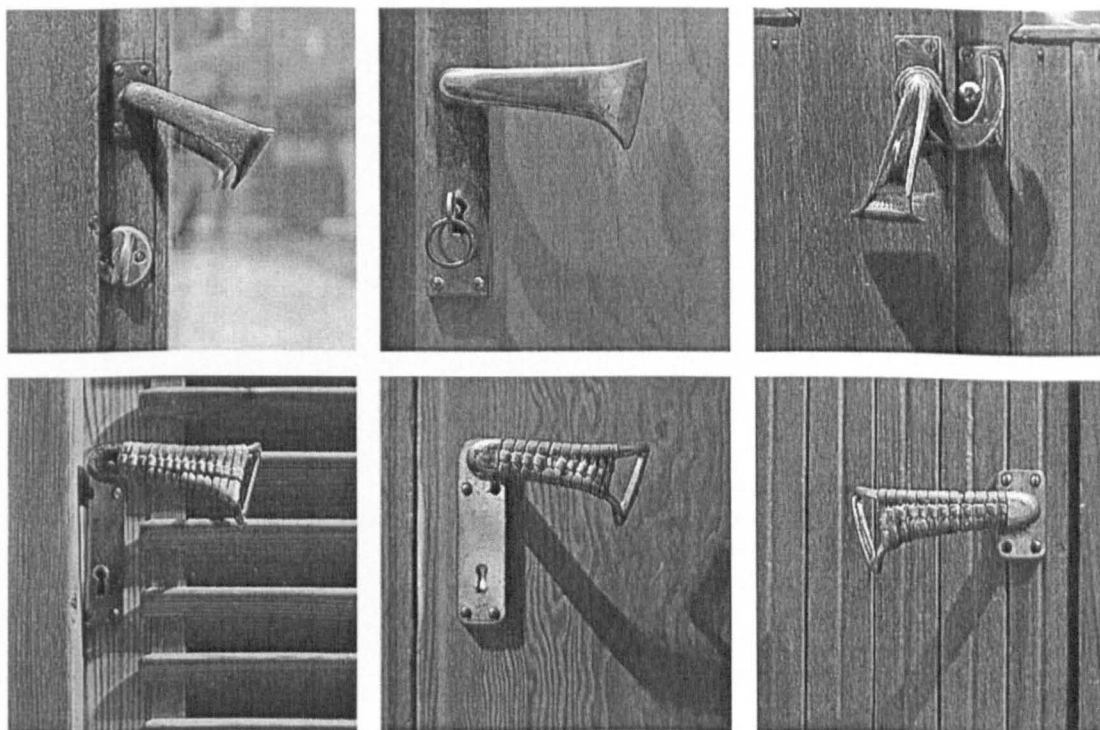
[Fig. 5-92] Mould for glass vases production, Alvar Aalto Museum



[Fig. 5-93] Bent wood shelf beside the main staircase



[Fig. 5-94] Various door handles in Villa Mairea, illustration in Pallasmaa (1998)



### 5.3.2. Reconciliation of 'Western' and 'Eastern'<sup>139</sup>

While the strength of the Western has tended to lie in a knowledge of *means*, the strength of the Eastern has tended to lie in a knowledge of *ends*. If this be true, it is necessary to regard the fusion of East and West as indeed a sacred issue for which Time has waited. Each was doomed to failure in its isolation. (Fenollosa, 1898)<sup>140</sup>

The European encounter with the art of the Far East, and in particular with that of Japan, gave rise to a whole new range of subject matter, new techniques and new artistic devices – this last to be understood as including the representation of depth and surfaces, the treatment of light and shade, the format and division of the picture plane, the principle of ornamentation and the treatment of glazes in ceramics, the symbolic role of real objects, architectural proportions, the reduction of the object to the simplest terms, new poses captured through new means of representation, and much else besides. (Wichmann, 1981)<sup>141</sup>

We can hardly date the exact time that Europe and the East Asia came across each other, but some Europeans were already collecting objects from the East Asia in the 16<sup>th</sup> century. Despite a lack of deep understanding, the exoticism of East Asian artworks – especially those of China without distinguishing them from those of other countries' – had become inspiration for European collectors up to 19<sup>th</sup> century and brought about *chinoiserie* – the fashion for Chinese art.<sup>142</sup> It has been a kind of fashion that Western artists become interested in Japanese

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<sup>139</sup> In this chapter, the 'Eastern' mainly means 'Japanese'. However, 'Japanese characteristics in architecture' raised by Western people are not only Japanese but also shared by other East Asian countries (Korea and China) in many points through long historical interactions, despite that there also exist many different features. Nonetheless, it is true that Japanese aesthetics became a representative of East Asian countries because Japan opened its door earlier than the other countries and could quickly rank with Western countries in its imperialism and modernisation.

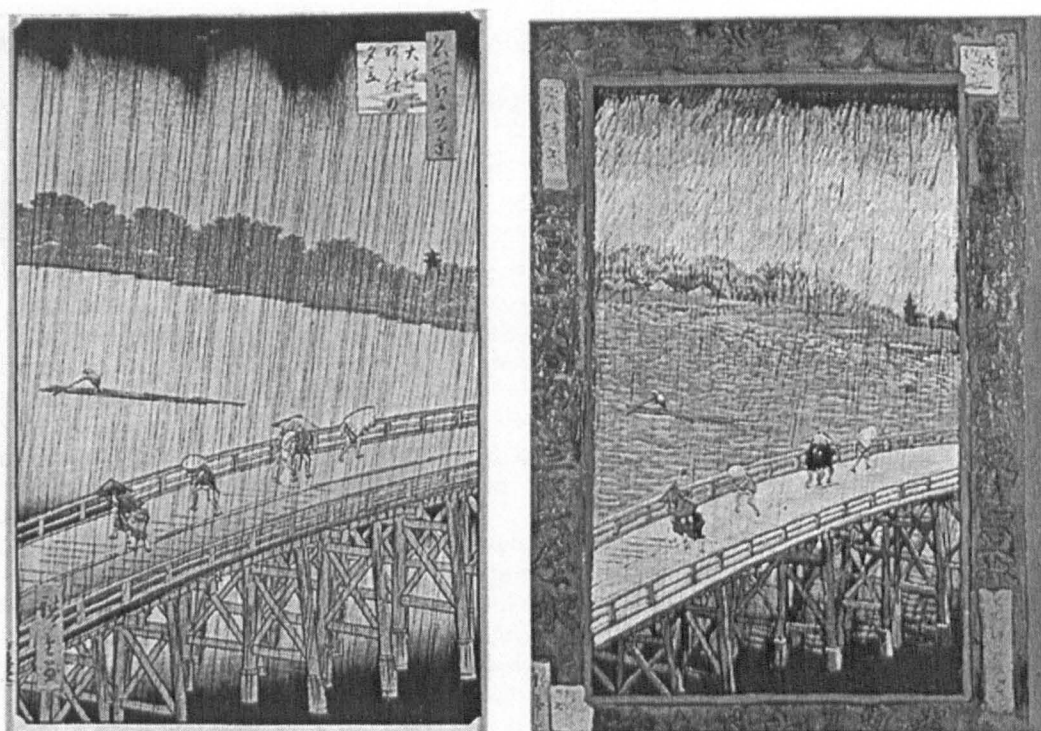
<sup>140</sup> Fenollosa, E. (1898) 'The Coming Fusion of East and West', *Harper's*, December 1898. Cited in Yu, B. (1983) *The Great Circle: American Writers and the Orient*, Wayne State University Press, Detroit, p. 106.

<sup>141</sup> Wichmann, S. (1981) *Japonisme: The Japanese influence on Western art since 1858*, Thames and Hudson, London, pp. 10-11.

<sup>142</sup> *Ibid.* p. 8.

art and referred to it in their works since the mid 19<sup>th</sup> century when Japan opened its trade with America and European countries. Though Japan opened the door under some coercion,<sup>143</sup> it brought a positive result through letting the Western world know about its culture and aesthetics. At the beginning, *Japonisme*<sup>144</sup> was an enthusiasm of Impressionist artists, especially of Manet's (1832-83) circle. They were keen on collecting Japanese prints, because they saw in the prints 'a tradition unspoilt by those academic rules and clichés which the French painters strove to get rid of.'<sup>145</sup> Van Gogh (1853-90) respected them so much that he

[Fig. 5-95] Comparison of Andō Hiroshige's colour woodcut, 'Ohashi bridge in the rain', 1856-58 (left) and Van Gogh's oil painting, 'Japonaiserie: the bridge, 1886-88 (right)



<sup>143</sup> After Japan made an agreement with America in 1856, it successfully opened the door to England, France, Russia and Netherlands. In 1868, the Meiji government suggested a reformed modernised country, which aimed at friendly trades with Western countries. Hall, J. W. (1971) *Japan: From Prehistory to Modern Times*, Tuttle Company, Tokyo

<sup>144</sup> The term, 'Japonisme' was first used by Philippe Burty in 1872 to mean 'a study of the history, culture, and art of Japan' under the situation of Japanese art's pouring into France during the 1860s. Weisberg, G. et al. (1975) *Japonisme: Japanese Influence on French Art 1854-1910*, The Cleveland Museum of Art, Cleveland, Ohio, p. xi and 15.

<sup>145</sup> Japanese prints could be cheaply purchased at teashops in Japan because they were 'often used as wrappings and padding'. Gombrich, E. H. (1989) *The Story of Art*, Phaidon, Oxford, pp. 417-418.

tried to get 'the direct and strong effect of the coloured Japanese prints' in his paintings<sup>146</sup> and even made a copy of Hiroshige's (1797-1858) prints in oils. Furthermore, he wrote to his brother: 'In a way all my work is founded on Japanese art.'<sup>147</sup>

The artists' *Japonisme* could be regarded as one strand of 'primitivism' – but stronger than others – in a broader sense,<sup>148</sup> through which artists tried to overcome the impasse of conventionalised academism in the so-called 'civilised' society and to start again without the obstacle of history. The fact that Delacroix (1798-1863) sojourned in Algiers, that Gauguin's (1848-1903)<sup>149</sup> paintings in Tahiti drew a broad attention to that tropical paradise, and that Picasso (1881-1973) and Braque (1882-1963) were impressed with African masks are parallel examples. In architecture, too, there was lots of Japanese influence on the West.<sup>150</sup> To take only a few examples, Victor Horta (1861-1947) of Brussels translated his impression of asymmetry and curved lines in Japanese art into the language of Art Nouveau;<sup>151</sup> Charles

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<sup>146</sup> *Ibid.* p. 436.

<sup>147</sup> Wichmann, S. (1981) *op. cit.* p. 9.

<sup>148</sup> The label 'primitive' has been used since at least the nineteenth century to distinguish contemporary European societies and their cultures from other societies and cultures that were then considered less civilised, and 'Primitivism' means the discourses on the 'primitive'. Perry, G. (1993) 'Primitivism and the 'Modern'', *Primitivism, Cubism, Abstraction: The Early Twentieth Century*, Yale University Press, New Haven & London, p. 5. Also see Osborne, H. (ed.) (1970) *The Oxford Companion to Art*, Clarendon Press, Oxford, pp. 924-925, and Turner, J. (ed.) (1996) *The Dictionary of Art*, vol. 25 (in 34 volumes), Macmillan Publisher, pp.582-585.

<sup>149</sup> He also painted about sixty fans in an East Asian style. Wichmann, S. (1981) *op. cit.* p. 13.

<sup>150</sup> Chisaburouh F. Yamada edited a book [Dialogue in Art: Japan and the West] (1976) as a result of the exhibition, 'Mutual Influences between Japanese and Western Arts' held in Tokyo in 1968. In contrast to the field of painting or the decorative art, Yamada wrote in the introduction of the book on the basis of Pevsner's view that 'Japanese contribution to the development of Western architecture prior to World War II was insignificant except in the United States' because 'modern Western architecture was linked with faith in European civilization.' If he meant (Pevsner's) narrow rationalism by 'modern Western architecture', it is true in a degree. However, if we broaden our view of modern architecture beyond it, we could find much more Japanese influence on European architects than Yamada thought. Yamada, C. F. (1976) *Dialogue in Art: Japan and the West*, Kodansha, Tokyo, New York and San Francisco, p. 16. On the other hand, he did not forget to warn us of an easily fallible conception of cultural influence. *Ibid.* p. 10.

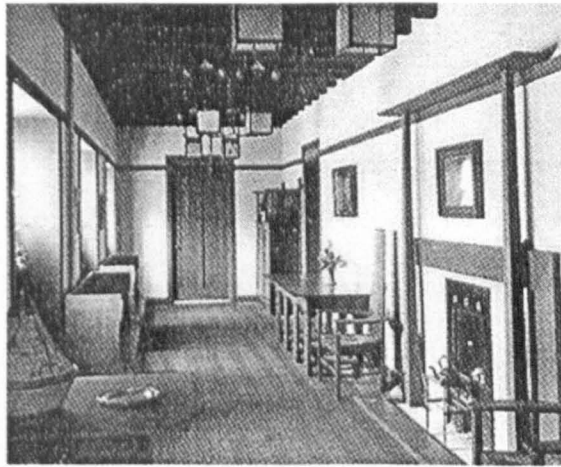
In studying the influence of one culture upon another, it is often tempting to regard every phenomenon of the "recipient" culture which appears to be similar to an aspect of the "donor" culture to be the result of the "donor's" influence – even when the phenomenon in question has developed autonomously and ought to be regarded as a parallel to it. ... I must admit, however, it has often been very difficult and in some cases impossible to determine whether an artist of the West has been indeed influenced by Japanese art.

<sup>151</sup> Gombrich, E. H. (1989) *op. cit.* p. 426.



Rennie Mackintosh (1868-1928) of Glasgow started his career at the time that the ‘interest in Japanese art was at its height in Glasgow’<sup>152</sup> and showed the influence in his designs such as in the interior of Windyhill (1899-1901); Bruno Taut (1880-1938) of Germany had an experience of working in Japan between 1933 and 1936<sup>153</sup> and even published books, such as [Grundlinien japanischer Architektur] (1935)<sup>154</sup> and [Houses and People of Japan] (1937) in Tokyo; and in America, Charles and Henry Greene (1868-1957; 1870-1954) applied Japanese architectural vocabularies successfully to the Gamble House (1907-08) in a Californian context.<sup>155</sup> Perhaps, however, the best known architect to receive Japanese influence and digest it into his mature architecture was the American master Frank Lloyd Wright (1867-1959).<sup>156</sup> He himself was an eager collector of Japanese print that gave him abstraction of form and colour, and he learned a lot from Japanese architecture, such as timber frame structure, overhanging roof, flexible door and screen, flowing space, proportion of *tatami*

[Fig. 5-96] Interior of Windyhill in Kilmacolm by Mackintosh, 1899-1901



<sup>152</sup> Buchanan, W. (1980) ‘Japanese Influence on Charles Rennie Mackintosh’, *Charles Rennie Mackintosh Society Newsletter*, no. 25, 1980 Spring, Glasgow, pp. iii-vi.

<sup>153</sup> Moriconi, M. (1998) ‘Bruno Taut va in Giappone’ (Bruno Taut goes to Japan), *Spazio e società*, vol. 20, no. 84, 1998 Oct./Dec., pp. 72-81.

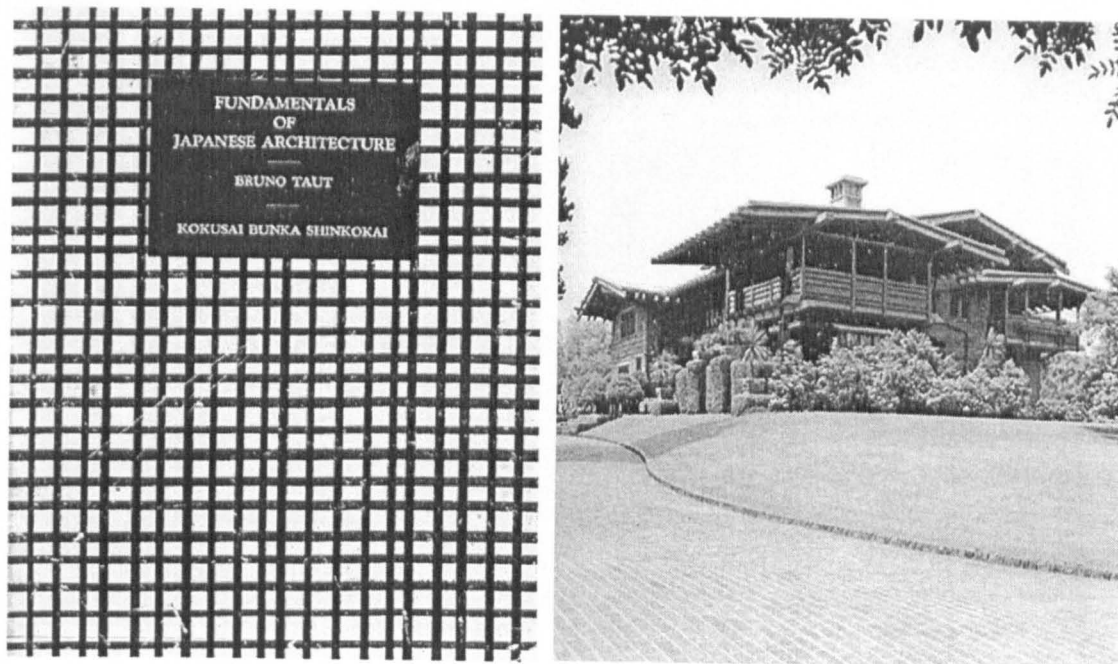
<sup>154</sup> This book was translated into English in the next year. Taut, B. (1936) *Fundamentals of Japanese Architecture*, Kokusai Bunka Shinkokai, Tokyo

<sup>155</sup> Wichmann, S. (1981) *op. cit.* pp. 358-375, and Bosley, E. R. (1992) *Gamble House, Architecture in Detail*, Phaidon, London

<sup>156</sup> Concerning the Japanese influence on Wright’s architecture, see Nute, K. (1993) *Frank Lloyd Wright and Japan: The Role of Traditional Japanese Art and Architecture in the Work of Frank Lloyd Wright*, Chapman & Hall, London



[Fig. 5-97] Cover of Taut's book on Japanese architecture (left) and Gamble House by Greene and Greene in Pasadena, California, 1908-09 (right)



[Fig. 5-98] Warren Hickox house by Frank Lloyd Wright in Kankakee, Illinois, 1900



[Fig. 5-99] Imperial Katsura Palace in Kyoto, illustration in Yoshida (1935)



module, and intimacy with nature. Wright also visited Japan several times and designed some buildings like the Imperial Hotel (1912-23) in Tokyo, and he addressed his affection for oriental aesthetics in many lectures.<sup>157</sup>

*Japonisme* was not alien to the Finnish architect Alvar Aalto, either. According to Schildt (1986), there are many proofs of Aalto's intimacy with Japanese culture and architecture. Because Alvar and Aino Aalto made friends with the first Japanese ambassador to Finland and his wife, he had frequent direct contact with Japanese people during their stay in Finland between 1933 and 1937. From them the Aaltos received as gifts a Japanese kimono, some books on Japanese flower arrangements, and 'a nine-volume series of illustrated books on Japanese culture' that also deals, of course, with Japanese architecture and gardening.<sup>158</sup> But

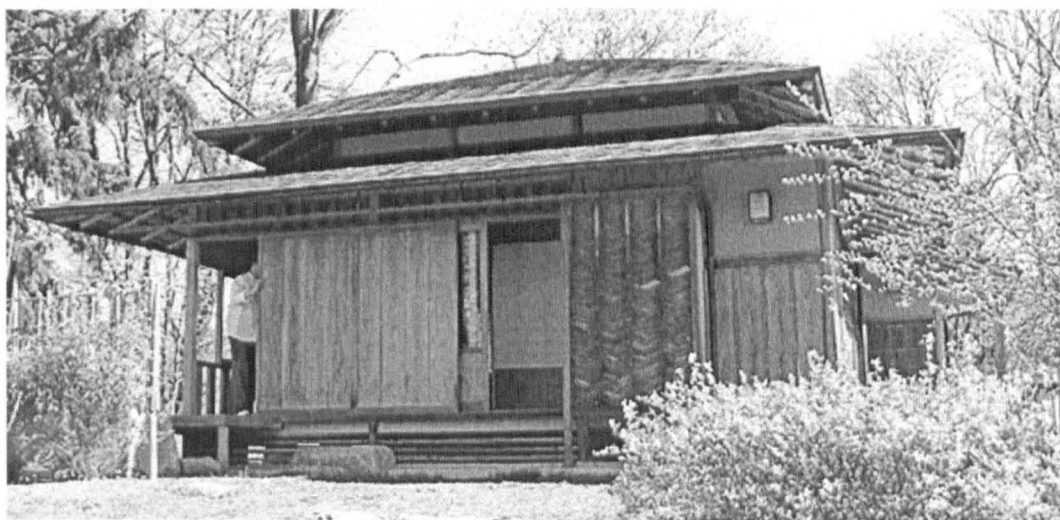
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<sup>157</sup> See Wright, F. L. (1939) *An Organic Architecture: The Architecture of Democracy*, Lund Humphries & Co. Ltd. London, and (1971) *The Natural House*, Pitman Publishing Co. London.

<sup>158</sup> Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, Rizzoli, New York, pp. 107-114.

the ambassador's description<sup>159</sup> claims that Aalto had already collected many books on Japanese architecture, especially on tearooms, which explains Aalto's interest in it before the friendship. And Schildt says that Aalto was also given by somebody in 1937 Bruno Taut's book on Japanese architecture,<sup>160</sup> which might have been [Grundlinien japanischer Architektur] or [Houses and People of Japan] mentioned above. Pallasmaa (1998) produced testimonies that Aalto was a member of the Finnish-Japanese Society during the time when the Villa Mairea was being designed. He wore a kimono in his office in the mornings, and he referred to Tetsuro Yoshida's [Das japanische Wohnhaus] (1935) for some details of the Villa Mairea.<sup>161</sup> He mentioned, too, Aalto's possible visit to the Japanese Tea House built at the National Museum of Ethnography in Stockholm in 1935.<sup>162</sup> Considering that Asplund also mentioned Japanese architecture in his inaugural lecture at the Royal Institute of Technology

**[Fig. 5-100] Japanese teahouse at National Museum of Ethnography in Stockholm, originally built in 1935, destroyed in 1969 and rebuilt in 1999**



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<sup>159</sup> After the Japanese couple returned to their country, they published an essay book on Finland, which contains their memories with Aaltos. The parts were translated into English in Schildt, G. (1986) *op. cit.* pp. 107-114.

<sup>160</sup> Schildt, G. (1986) *op. cit.* pp. 113.

<sup>161</sup> Pallasmaa got these information through an interview with Aalto's assistant architect, Paul Bernoulli on May 21, 1989. Pallasmaa, J. (1998) *op. cit.* p. 98.

<sup>162</sup> This assumption was suggested by professor Fred Thompson of Waterloo University. Concerning it, see note 71 in Pallasmaa, J. (1998) *op. cit.* p. 98.

in 1931,<sup>163</sup> we can guess that Scandinavian art and architectural circles appreciated Japanese architecture and were ready to receive it.

Aalto himself revealed his high admiration of Japanese culture in several lectures and writings. At the annual meeting of the Swedish Society of Industrial Design on May 9, 1935, he delivered the lecture 'Rationlismen och människan' (Rationalism and Man), which included this passage:

There is one civilization that has previously, also at the handicraft stage, shown great delicacy and understanding of the individual in this respect. I am thinking of certain aspects of Japanese culture, which with its limited raw materials and forms has implanted in the people a virtuosity in producing variety and, almost daily, new combinations. The Japanese love of flowers, plants, and natural motifs in general is exemplary. Their contact with nature and the ever-enjoyable variation it produces is a way of life that makes them reluctant to dwell too long on formalistic concepts.<sup>164</sup>

Schildt (1986) added two more proofs of Aalto's interest in Japanese architecture. One is Aalto's letter written in 1941 to the Japanese ambassador of the time, which focused on Japanese insight into materiality as in the lecture, 'Rationalism and Man':

There is a very special affinity between us modern architects and the well-balanced architecture of your country. I believe that it is a deeper understanding of the language of materials which unites us.<sup>165</sup>

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<sup>163</sup> Asplund, G. (1931) 'Var arkitektoniska rumssuppfattning' (Our Architectural Conception of Space), *Byggmästaren*, pp. 203-210. Republished in English by Simon Unwin and Christina Johsson in *ARQ*, vol. 5, no. 2, 2001, pp. 151-160.

Maybe we in Western Europe are coming closer to the Japanese idea of the house, as a not too fixed, heavy and permanent object. Maybe we will adopt what has long been practised in Japan, changing our houses from one season to the next.

<sup>164</sup> Aalto, A. (1935) 'Rationalism and Man'. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, p. 93.

<sup>165</sup> Schildt, G. (1986) *op. cit.* p. 114.

In 1942, Aalto wrote to his old friend Otto Völckers in Munich, comparing Japanese houses with those of Karelia that is the home of the Finn's mind:

I am sending you a collection of photographs of our old Finnish buildings. The houses in the old Karelian area are especially close to my heart. They represent an almost extra-European architecture comparable with that of Japan.<sup>166</sup>

Considering Aalto's deep interest in Japanese architecture, it is not a strange thing at all that he attempted some Japanese characteristics in his design. Japanese architecture<sup>167</sup> was formed since a prehistoric period according to the country's own climatic and cultural conditions, and her political and cultural interactions with other East Asian countries – Korea and China – also played an important role.<sup>168</sup> The basic structure of Japanese buildings is the wooden post and lintel skeleton, on which a tiled or thatched roof is laid. The walls could be flexibly open with sliding *shoji* doors, and the interior floor is covered mainly with *tatami*, a straw woven mat. Besides the building itself, a garden is also very important in Japanese architecture. It is enclosed by wooden or bamboo fences and landscaped with hillocks, ponds, stones, trees, and the like. Yoshida (1955) summarised the advantages of Japanese house as follows:

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<sup>166</sup> *Ibid.* p. 114.

<sup>167</sup> Concerning it, see Yoshida, T. (1955) *The Japanese House and Garden*, Architectural Press, London, Paine, R. T. and Soper, A. (1981) *The Art and Architecture of Japan*, Penguin Books, Middlesex and New York, and Nishi, K. and Hozumi, K. (1983) *What is Japanese Architecture?: A Survey of traditional Japanese architecture, with a list of sites and a map*, Kodansha, Tokyo, New York, and San Francisco.

<sup>168</sup> Concerning Korean architecture, see Joo, N. C. (1994) *Hanguk Geonchuk Uijang* (Korean Architectural Design), Iljisa, Seoul, Chun, J. H. et al. (1999) *Hanoak: Traditional Korean Homes*, Hollym Internation, Seoul, Joo, N. C. (2000) *Hanguk Geonchuksa* (Korean Architectural History), Korea University Press, Seoul and Blundell Jones, P. (2004) 'Living with the Elements: the Korean House', *Architectural Review*, September 2004, pp. 80-85. Concerning Chinese architecture, see Sickman, L. and Soper, A. (1956) *The Art and Architecture of China*, Penguin Books, Middlesex and Baltimore, and Li, Y. H. (1984) *Huaxiyijiang* (Design Theory of Chinese Classical Architecture), Guangjiaojing Publisher. And concerning the interaction of architecture between China, Korea and Japan, see Sarvimäki, M. (2000) *Structure, Symbols and Meanings: Chinese and Korean Influence on Japanese Architecture*, Research series of Department of Architecture, Helsinki University of Technology, 18/2000, and Lee, S. H. (ed.) (2002) *Traditional Architecture in Modern Asia: Proceedings of the 2002 Seoul International Conference on East Asian Architectural History held at Seoul National University*, Seoul, Korean Association of Architectural History.



1. the Japanese house is a detached house with a garden; between house and garden there is an intimate relationship, the interior of the house and the garden forming an organic whole;
2. it has many large door and window apertures and rooms open to the outside, making it highly adaptable to the climate of the country and creating a strong link with nature;
3. the plan of the house is flexible: the divisions of the rooms and their multifarious uses are easily changed;
4. design and construction are practical and rational and result in an architectural beauty;
5. the grouping of the rooms, with the Tokonoma at the centre, is clean, simple and clear;
6. unpainted wood is used so that the natural beauty of grain and colour is given its full value;
7. furniture is appropriately built in and other measures are taken to permit the full use of available room and to give an impression of spaciousness;
8. the size of rooms and the various structural components are standardized down to the smallest detail, making possible rapid and cheap construction without robbing the house of its individual character.<sup>169</sup>

It seems that Aalto started using Japanese vocabularies from the early 1930s. The Finnish critic Gustaf Strengell compared the affinity of the colouring and the wood usage in the Viipuri Library (1927-35) interior with those of Japan.<sup>170</sup> In his house design at Riihitie in 1934, Aalto adopted more concrete Japanese elements, and this time corresponds to the period when the Aaltos were associating with the Japanese ambassador couple. Firstly, the screen

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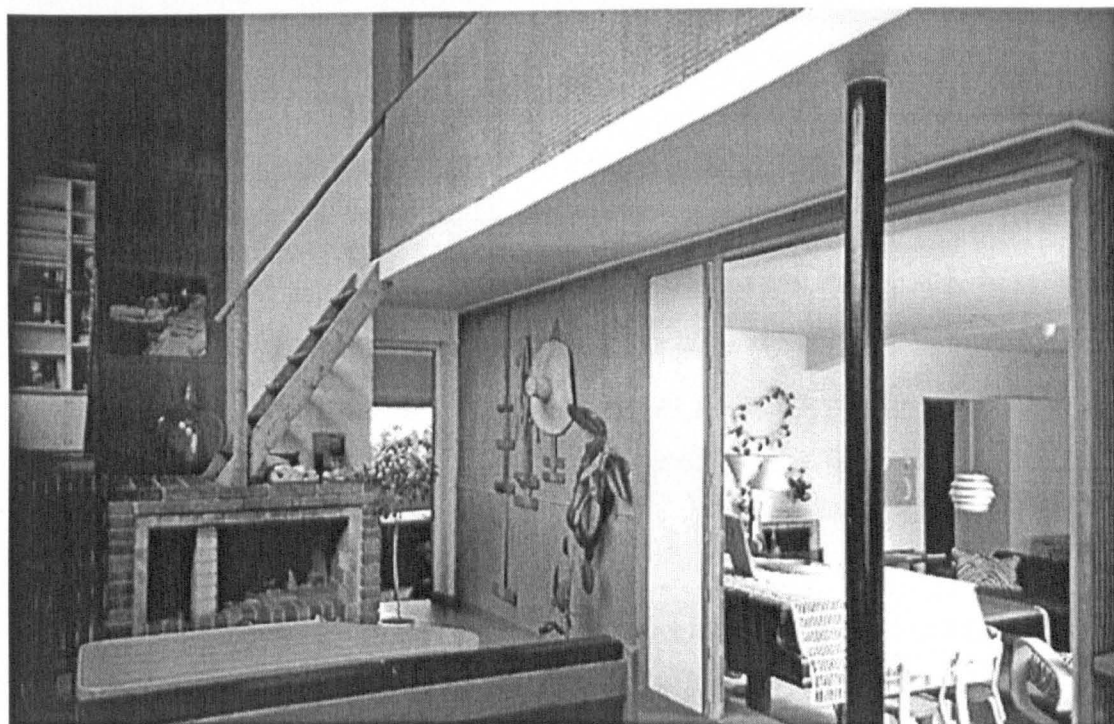
<sup>169</sup> Yoshida, T. (1955) *op. cit.* pp. 9-10.

<sup>170</sup> Schildt, G. (1986) *op. cit.* pp. 114.

The interiors of the building display Japanese characteristics in many places. Observe the pale, light colouring, which gives the rooms not just their charming airy quality but actually a scent. Quite particularly the Japanese streak appears in the choice of pale wood only – birch, pine, beech – for the panelling and furnishings, and it is even more striking in the treatment of smooth surfaces: in true Japanese manner, they are not treated at all, but left 'in their natural state', which is both attractive to the eye and pleasing to the touch, though perhaps not so well-considered from the practical point of view. (*Hufvudstadsbladet*, November 13, 1935)

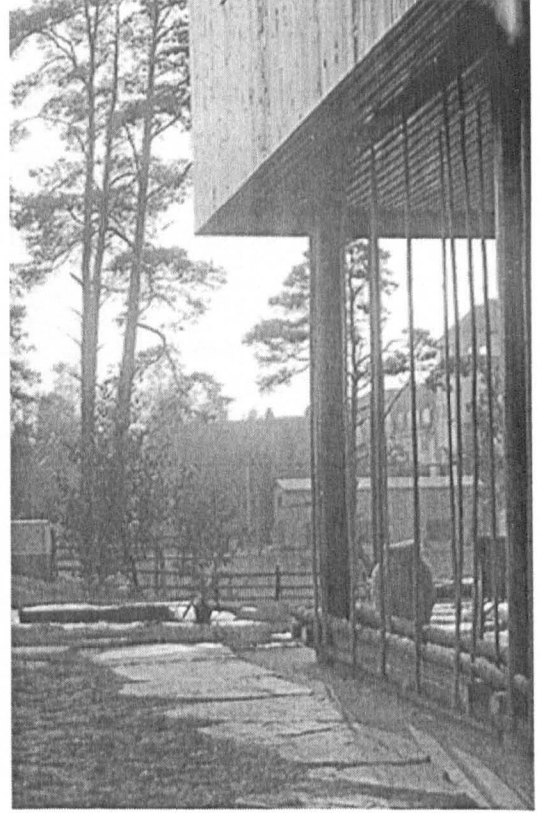
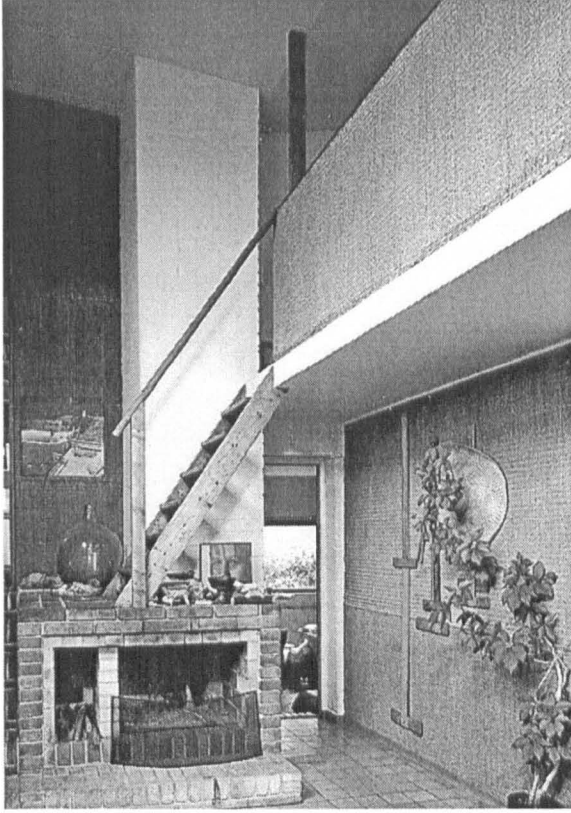
wall between the living room and the studio implies a Japanese screen door-wall that flexibly opens and closes. Secondly, the studio side of the screen wall is covered with a straw mat, which directly reminds us of Japanese *tatami* materiality and the texture of a woven rice straw mat found in East Asia. This straw mat also covers the balustrade of the studio balcony so entirely that the staffs working in the studio could not but feel a Japanese impression. Thirdly, a row of bamboo poles standing beside the covered *alfresco* dining room lets one feel a Japanese mood. Besides these, the spatial relationship between the interior and the exterior, the intimacy with nature in the house, and the usage of stepping-stones also share characteristics with Japanese architecture.<sup>171</sup>

**[Fig. 5-101] Japanese characteristics in Aalto's house: sliding door wide opened between the studio and the living room (top), straw mat on a wall and on a balustrade in the studio (bottom left) and a row of bamboo poles beside the alfresco dining room (bottom right)**



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<sup>171</sup> Concerning Aalto's own house, see 'Chapter 4.2. Aalto's Own House in Munkkiniemi, 1934-36'.



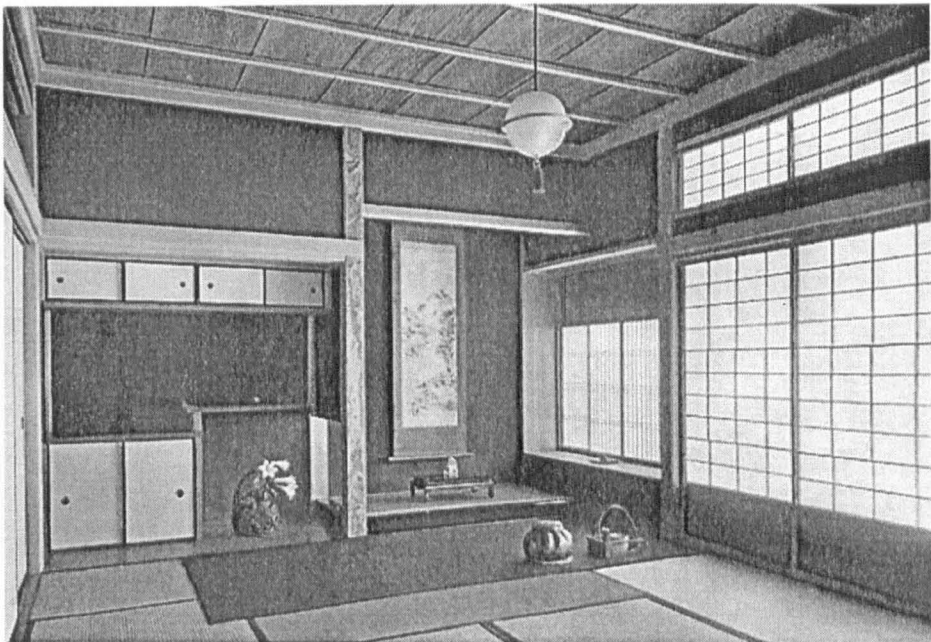
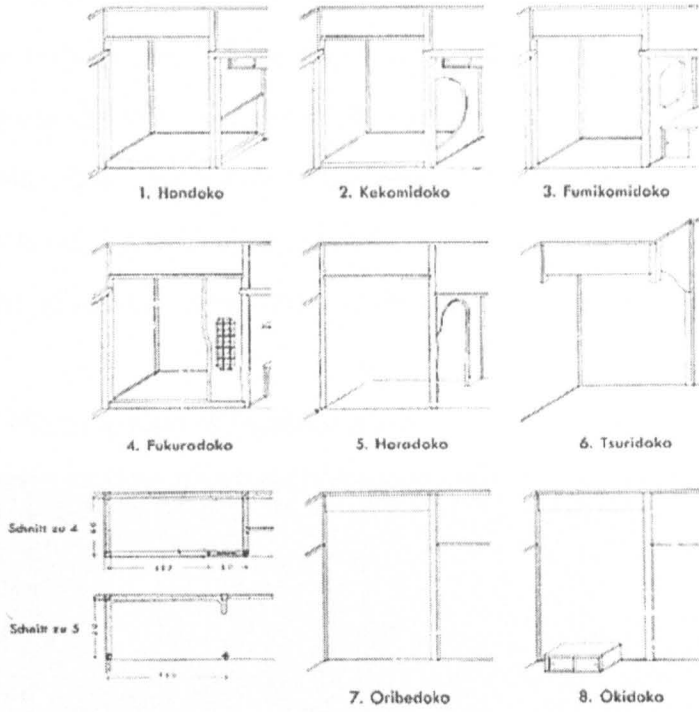
No other Aalto buildings illustrate Japanese influences better than the Villa Mairea. Most significantly, as I quoted in a former chapter, Aalto applied the concept of Japanese art display at home to the Villa Mairea's art exhibition space: 'We know that the Japanese home never displays many pictures at one time, but they change the pictures from week to week and from month to month.'<sup>172</sup> This account is important in that Aalto himself directly confessed a Japanese influence on the Villa Mairea. And it must be that he reiterated the *tokonoma* concept as he read in Yoshida's book (1935).

Tokonoma or Toko (picture recess): ... The picture, called Kakemono, is frequently changed just like the vase and the other ornaments; the selection of the pictures follows the season, to whose mood they are adapted. When the Kakemono is not displayed, it is rolled up and stored in a chest.<sup>173</sup>

<sup>172</sup> Aalto, A. (1939a) 'The Home of a Rich Collector', Yale University Lecture on May 9, 1939. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, p. 228.

<sup>173</sup> Author's translation from German into English. Yoshida, T. (1935) *Das japanische Wohnhaus*, Ernst

[Fig. 5-102] *Tokonoma* in Japanese house, illustrations in Yoshida (1935)



Wasmuth, Berlin, p. 59. For the original text, see the note 57 in 'Chapter 5.2.2. Space to Combine Art with Life'.

From this *tokonoma* inspiration, Aalto could develop the art library concept, which is also connected with the flexibility of space that Aalto pursued in the interior of the house, a feature prominent in the Japanese traditional house owing to flexible screen walls.<sup>174</sup> That is to say, the *tokonoma* inspiration was the key issue in the interior design of the house. That is the reason that Aalto allocated most part of his accounts – Yale University lecture and ‘Mairea’ article in [Arkkitehti] – for the art library concept. Up to now, however, few writers have focused on this concept and nobody has related it with Japanese *tokonoma*. More than any other Japanese influences, I argue, this concept was pivotal for the Villa Mairea design.

[Fig. 5-103] Winter garden in Japanese mood

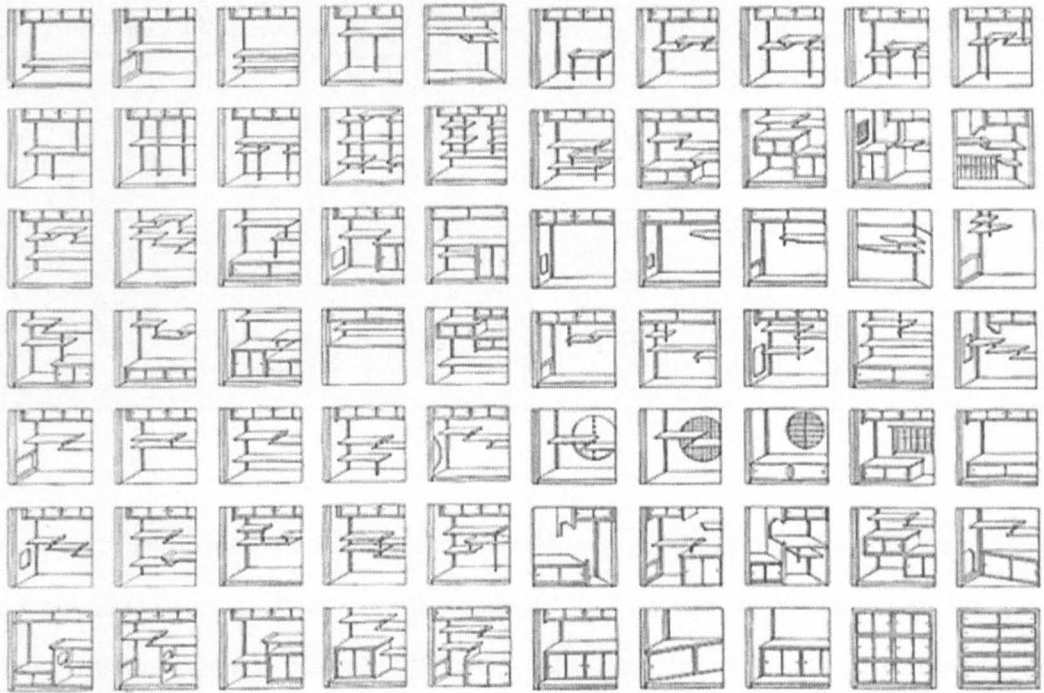
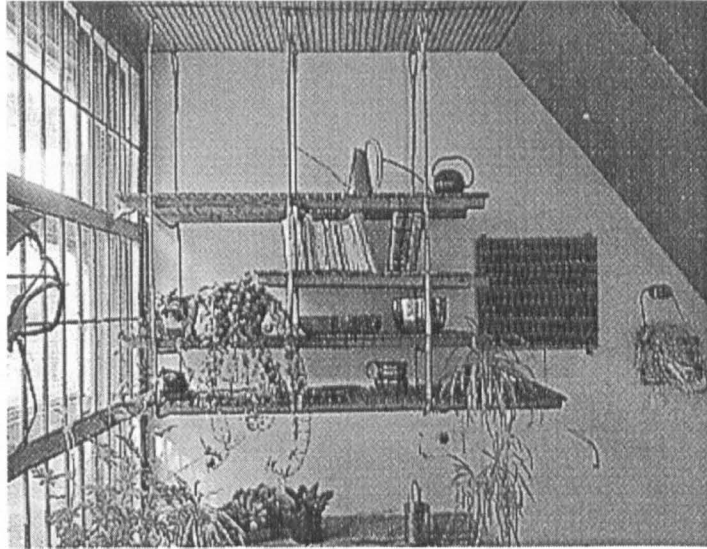


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<sup>174</sup> In addition, the exhibition space in the Early Version 3 alludes to Japanese *tatami* module and partition walls to Japanese screen walls. See [Fig. 3-32].



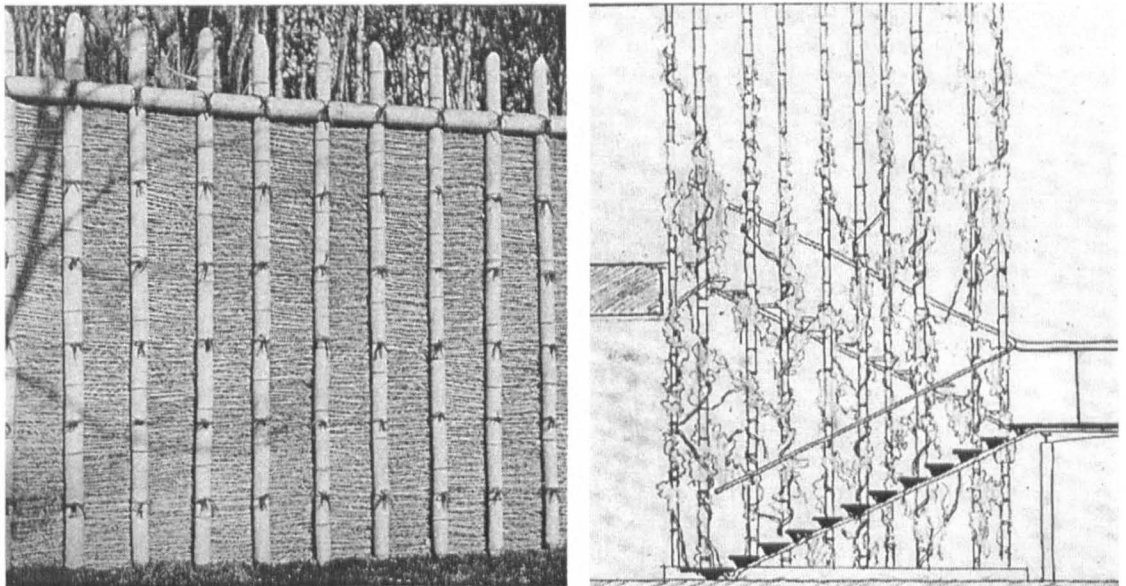
[Fig. 5-104] Suspended shelves in winter garden (top: Pallasmaa, 1998) and various *tana* arrangements in Yoshida (1935) (bottom)



Secondly, the winter garden for Maire's flower arrangement is wholly in Japanese aesthetics. It has sliding doors and window walls with Japanese style lattice; bamboo tables and chairs; and straw mats as in Aalto's house studio. According to Aalto's assistant architect Paul

Bernoulli, Aalto consulted [Das japanische Wohnhaus] in designing the sliding door, and Pallasmaa presented the resemblance of the suspended shelves in the room and various Japanese *tana* (棚, wall shelves) samples.<sup>175</sup> Thirdly, the thin pole screen under the entrance canopy alludes to a Japanese bamboo fence. Particularly, we can see the direct adoption of it in the early sketch for the main staircase, and it had been already applied in Aalto's own house as I described above.

[Fig. 5-105] Katsura palace bamboo fence in Yoshida (1955) (left) and main staircase bamboo poles in an early sketch (right)



Fourthly, the sauna entrance assumes the character of a Japanese teahouse in its transition and the subdivided doors as Weston (1992) suggested. In addition, the Finnish sauna has a ritual affinity with the Japanese teahouse.<sup>176</sup> Both are detached from their main houses but located isolated more among nature, and invite us to daily rites, *i.e.* steam bathing and the tea ceremony. Just as we purify our body and soul amid the hot watery air of Finnish sauna,<sup>177</sup> the

<sup>175</sup> Pallasmaa, J. (1998) *op. cit.* pp. 98-99.

<sup>176</sup> Concerning Finnish sauna, see Konya, A. (1987) *Finnish Sauna*, Architectural Press, London, and concerning Japanese tea ceremony, see Okakura, K. (1964) *The Book of Tea*, Dover Publications, New York (originally published by Fox, Duffield and Company in 1906).

<sup>177</sup> Scott Poole described about elemental matters in the Villa Mairea. Above all, the sauna alludes to

Japanese teahouse offers a ‘spiritual space where the participants in the ceremony can cleanse their minds of mundane concerns.’<sup>178</sup> Aalto himself described later (1950) the parallel role between Finnish sauna and Japanese tea ceremony.

These steam baths are basic for the country’s hygienic system. ... It is very difficult to explain the importance of the Finnish bath for Finnish culture, but it has exactly the same value as, for instance, the tea ceremony in Japan. The country probably could not exist without them. They are traditional and they fit into our tradition.<sup>179</sup>

**[Fig. 5-106] Interior of traditional Finnish sauna, illustration in Poole (1992)**



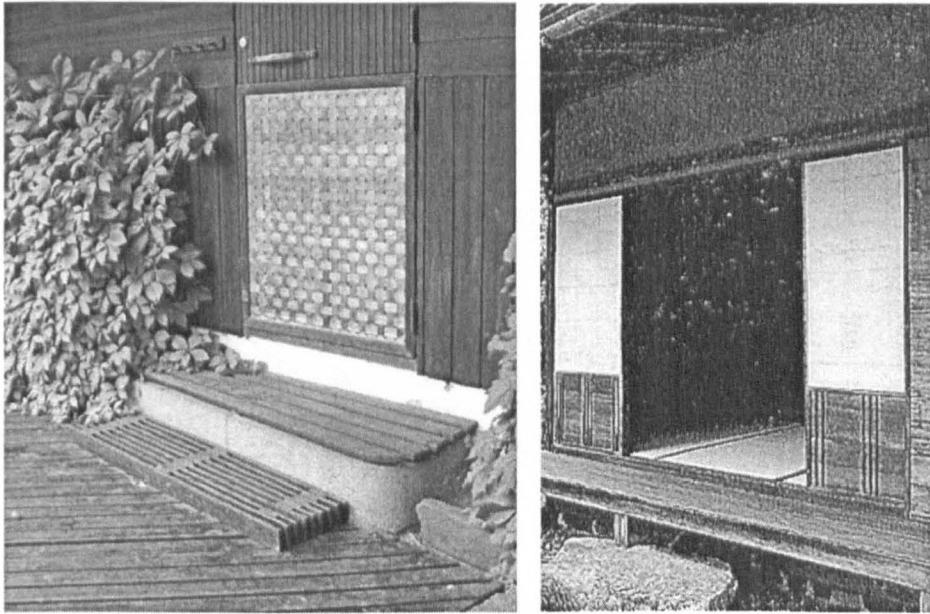
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the four elements – fire, water, earth, and air – along with some spiritual value. Poole, S. (1992) ‘Elemental Matter in the Villa Mairea’, *The New Finnish Architecture*, Rizzoli, New York

<sup>178</sup> Nishi, K. and Hozumi, K. (1983) *What is Japanese Architecture?: A Survey of traditional Japanese architecture, with a list of sites and a map*, Kodansha, Tokyo, New York, and San Francisco, p. 118.

<sup>179</sup> Aalto, A. (1950) ‘Finland Wonderland’, AA lecture, June 20, 1950. Reprinted in Schildt, G. (1997) *op. cit.* pp. 184-190.

[Fig. 5-107] Villa Mairea sauna entrance (left) and Japanese teahouse entrance in Weston (1992) (right)

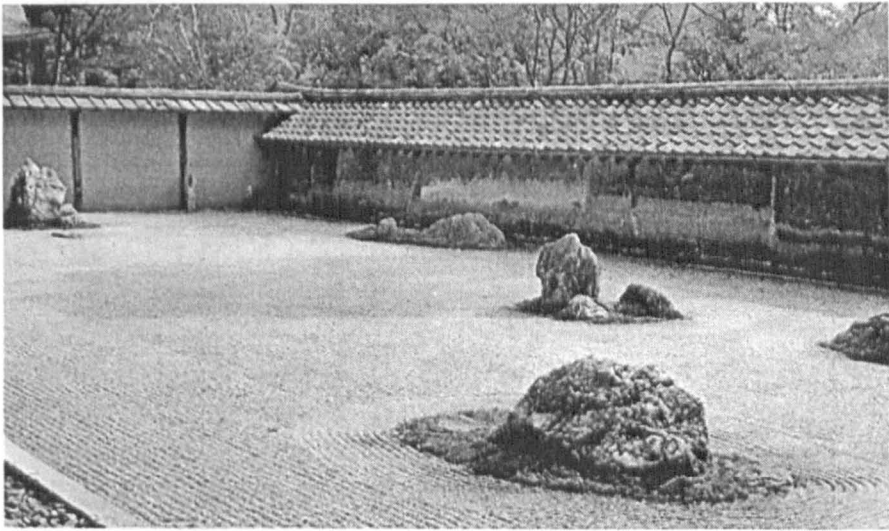


[Fig. 5-108] Yoshida's illustrations (1935) of Japanese garden: one can be comparable with the Villa Mairea's courtyard with a hillock and a pool (top) and the other suggests a possible inspiration of the roof on the exterior wall in the Early Version 1 (bottom)





[Fig. 5-109] Typical Japanese dry garden in Ryoanji, Kyoto



Fifthly, the composition of the swimming pool and the small hillock in the Villa Mairea courtyard is quite similar to Tetsuro Yoshida's illustration of a Japanese garden in his book (1935), as Pallasmaa (1998) pointed out. Furthermore, I strongly suspect that Aalto imitated the roof on the exterior wall in another Yoshida's garden illustrations – which Pallasmaa did not present – in the Early Version 1 (see Fig. 3-25 and 26). Because of Aalto's reference to the

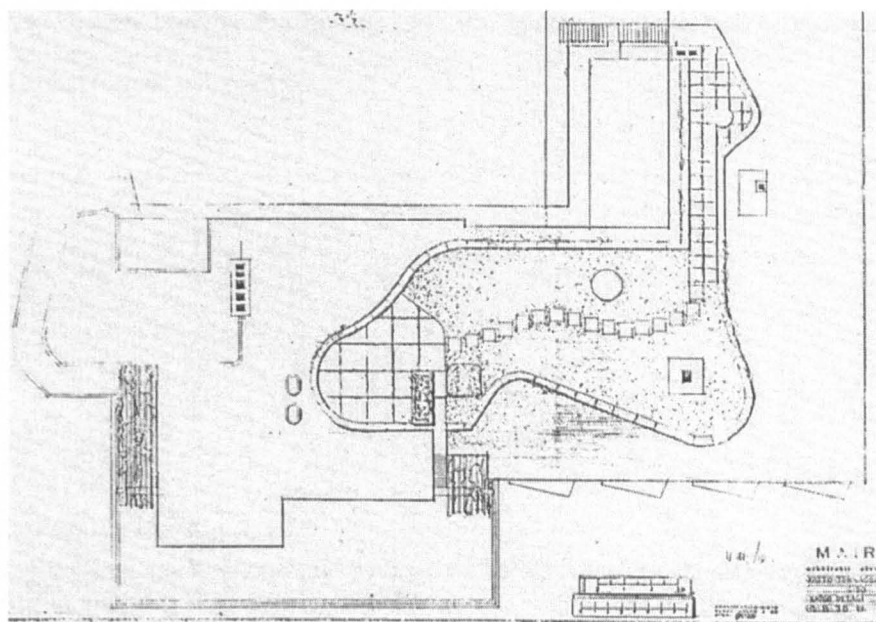


book, we cannot deny its influence on the design. Also, there are some other features recalling Japanese architecture, such as the stone bases under wooden supports in the entrance canopy and the sauna terrace (see Fig. 5-60 and 61), the stepping-stones here and there around the house, and the Japanese dry garden on the roof of the main house body (see Fig. 5-77). One roof sketch drawn in August 1983 (84/551) already implied the refined development of the dry garden of the present.

[Fig. 5-110] Stepping-stones between Swiss gate and sauna



[Fig. 5-111] Early roof sketch drawn in August 1983 <84/551>



Despite the characteristics of Japanese traditional architecture in the house, however, the Villa Mairea is not a Japanese house. Aalto developed his own way of adopting and transforming the Japanese aesthetics in the house within the stream of Western modernism. His understanding of Japanese art display custom was embodied in his flexible art library concept. The Japanese style lattice was applied to the winter garden door not with *shoji* but with glass, and the Japanese bamboo fence appeared as the screen of unbarked saplings under the entrance canopy. Some conspicuous evocations of Japanese mood as in the winter garden contrast sharply with Western modern features in the living room such as the white brick wall, tile floor, modern furniture, abstract paintings and sculptures, and the typical western musical instrument, the piano.<sup>180</sup> The contrast intensifies each characteristic. However, some Japan-alluding characteristics are not wholly orthodox Japanese ones but applied and changed. For example, bamboo chairs are Eastern, *i.e.* Japanese in its image of material, but Western in its function since Japanese people did not sit on a chair but generally kneeled down on the floor. And the sauna entrance implies Japanese character in a degree, but the log hut is more Finnish as a whole. In addition, other characteristics like the rustic stone bases supporting a superstructure are Japanese on the one hand but universal in vernacular architectures on the other. In this sense, various elements of Japanese traditional architecture are fused with Finnish and Western ones in the house, as Aalto tried to reconcile the regional polarities within one architectural entity.

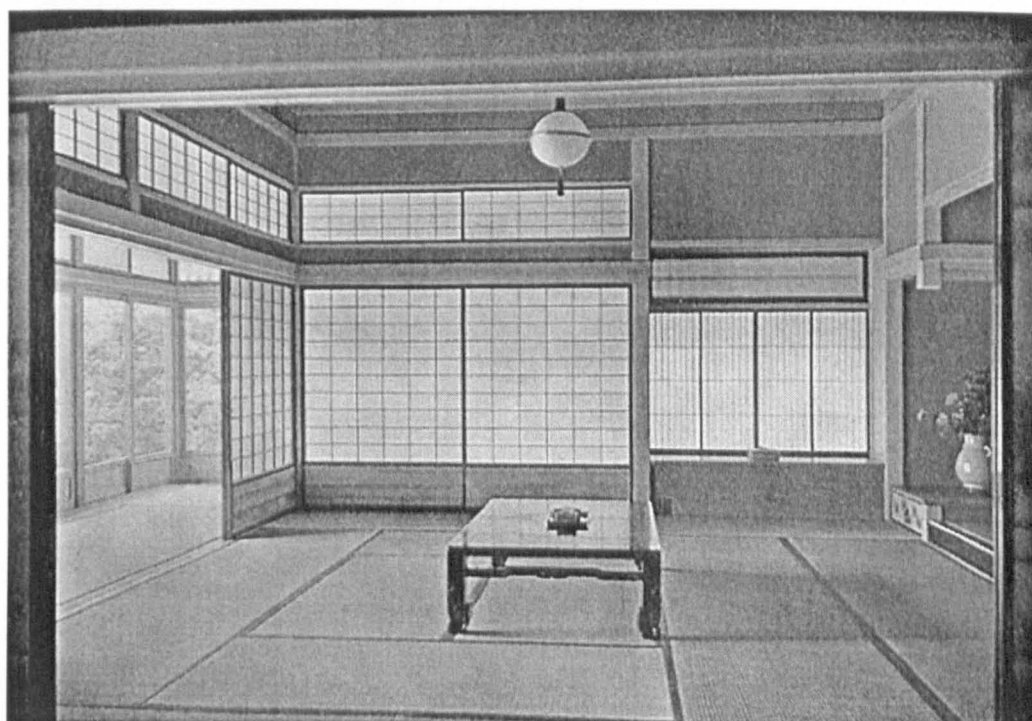
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<sup>180</sup> According to Suominen-Kokkonen, the piano in the Villa Mairea is a unique one designed by Poul Henningsen of Denmark in 1936. Suominen-Kokkonen, R. (1998) 'The Interior Design'. In Pallasmaa, J. (ed.) (1998) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, p. 131.

[Fig. 5-112] Winter garden from music room: synthesis of 'Western' and 'Eastern'



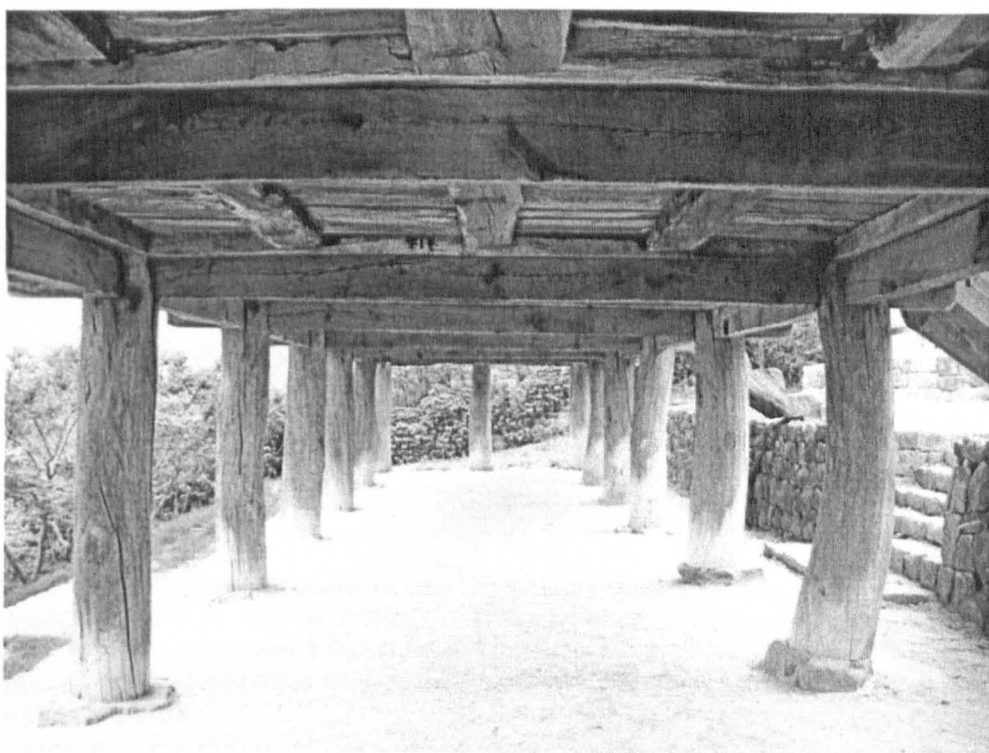
[Fig. 5-113] *Shoji* door in Japanese house comparable with winter garden glass door, illustration in Yoshida (1935)



[Fig. 5-114] Bamboo forest in Japan, illustration in Yoshida (1935)



[Fig. 5-115] Rustic stone bases supporting wooden poles, under Mandaeroo of Byongsanseowon in Andong, Korea



### 5.3.3. Reconciliation of 'Geometric' and 'Organic'

Throughout history there persist two distinct trends – the one toward the rational and the geometrical, the other toward the irrational and the organic. ... The artist has the right of choice, of saying according to his own point of view which pleases him and which he will follow. (Giedion, 1941)<sup>181</sup>

Architecture throughout the world and down the ages has been bisected by an inevitable duality, having been either *organic* (and as such following the law of natural organisms) or arranged (i.e. according to some Euclidean ideal devised by man). ... There is no architecture unless it's organic, but also there is no architecture unless it's at the same time arranged. (Lescaze, 1942)<sup>182</sup>

In architectural discourse, the concepts of 'geometric' and 'organic' have often been contrasted together as opposites. If the geometric looks mathematical, rational, universal and academic, the organic appears random, romantic, local and natural. According to Peter Blundell Jones (1999), we can trace the origin of the opposition back to that between 'the Gothic tradition of the North' and 'the Latin or Mediterranean Classical tradition'<sup>183</sup>: 'Gothic buildings are outcomes from an organic growth through a long time process in each specific site, whereas Classical architecture is a result of geometric proportion – a supposed universal law.' In modern architectural history, we can find the clash of the two in the theories of Le Corbusier and Hugo Häring. Blundell Jones expounds the principles of Häring (1882-1958) and Le Corbusier (1888-1965) as 'the organic versus the geometric'.<sup>184</sup> In his [Vers une Architecture] (1923), Le Corbusier praised pure forms, such as, 'cupolas, vaulting, cylinders,

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<sup>181</sup> Giedion, S. (1967) *Space, Time and Architecture*, Harvard University Press, Cambridge MA, p. 414.

<sup>182</sup> Lescaze, W. (1942) *On Being an Architect*, G. P. Putnam's Sons, New York. Cited in Zevi, B. (1950) *Towards an Organic Architecture*, Faber & Faber, London, p. 67.

<sup>183</sup> Blundell Jones, P. (1999) *Hugo Häring: The Organic versus the Geometric*, Edition Axel Menges, Stuttgart/London, p. 82.

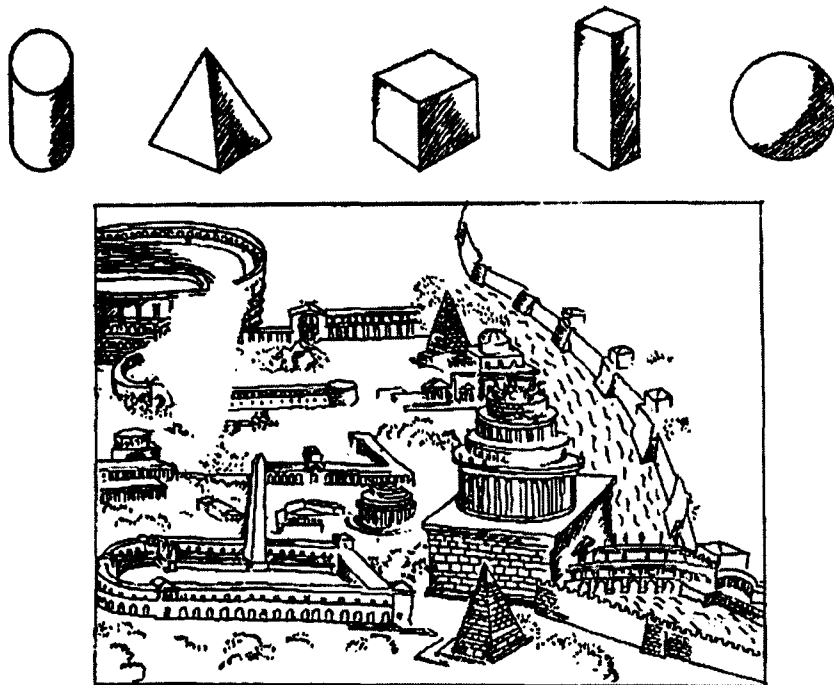
<sup>184</sup> Blundell Jones, P. (1999) *op. cit.* pp. 82-89.



rectangular prisms or pyramids' and the geometric order,<sup>185</sup> and laid stress on the importance of 'the regulating lines'.

An inevitable element of Architecture. The necessity for order. The regulating line is a guarantee against wilfulness. It brings satisfaction to the understanding. The regulating line is a means to an end; it is not a recipe. Its choice and the modalities of expression given to it are an integral part of architectural creation.<sup>186</sup>

[Fig. 5-116] 'The use of elementary shapes. A sane morality' (Le Corbusier, 1923)



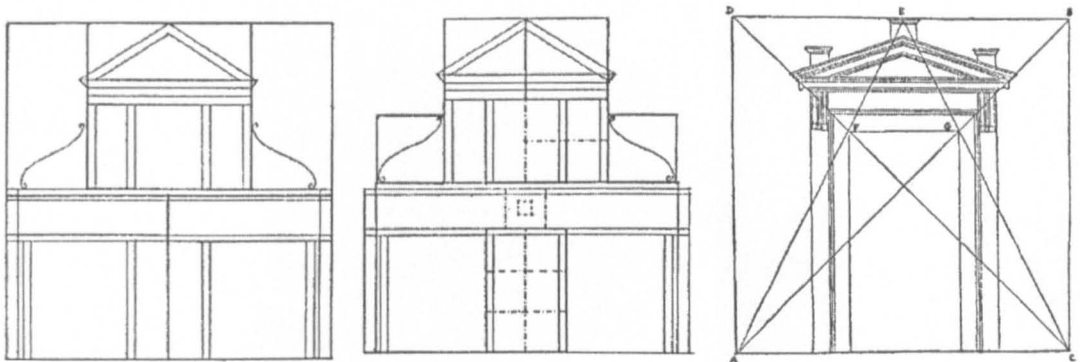
In fact, Corbusier's faith in the regulating lines was just a reiteration of that of Renaissance architects, who believed that there is a cosmic harmony behind the geometric rules (see Fig. 3-83). And the admiration of pure forms had already been advocated by some revolutionary

<sup>185</sup> Le Corbusier (1923) *Vers une Architecture*, Editions Cres, Paris, English edition translated by John Rodker (1927) as *Towards a New Architecture* reprinted in 1989 by Architectural Press, London, pp. 158-159.

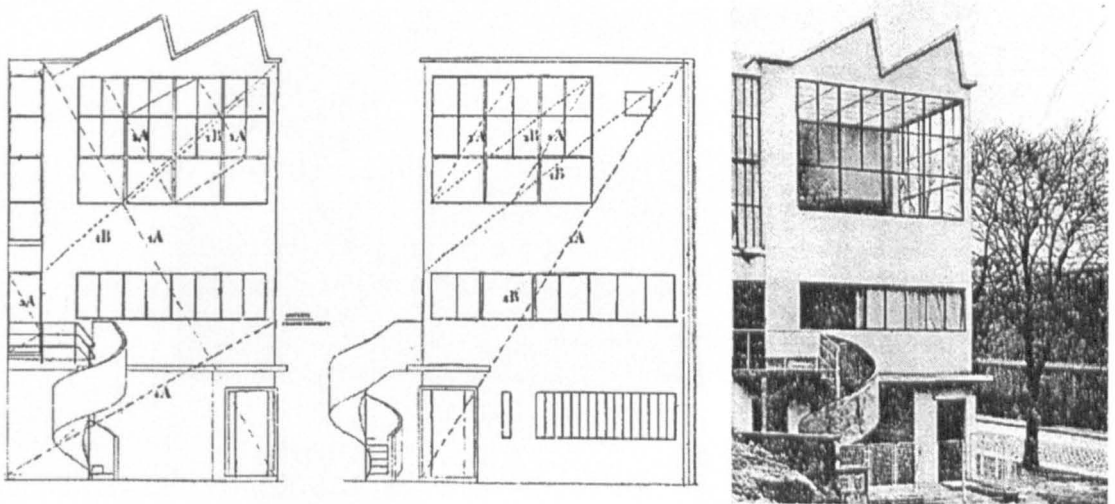
<sup>186</sup> *Ibid.* p. 67.

French architects like Etienne-Louis Boullée (1728-99) and Claude-Nicolas Ledoux (1736-1806) among the Neo-classical mood.<sup>187</sup> In this sense, Corbusian principles of architecture and, after all, the orthodox line of modern architecture might be regarded as following the Classical tradition.

[Fig. 5-117] Proportions in Renaissance: diagrams of Alberti's (1404-72) Santa Mairea Novella façade (left) and 'construction of a door' by Sebastiano Serlio (1475-1555) (right)

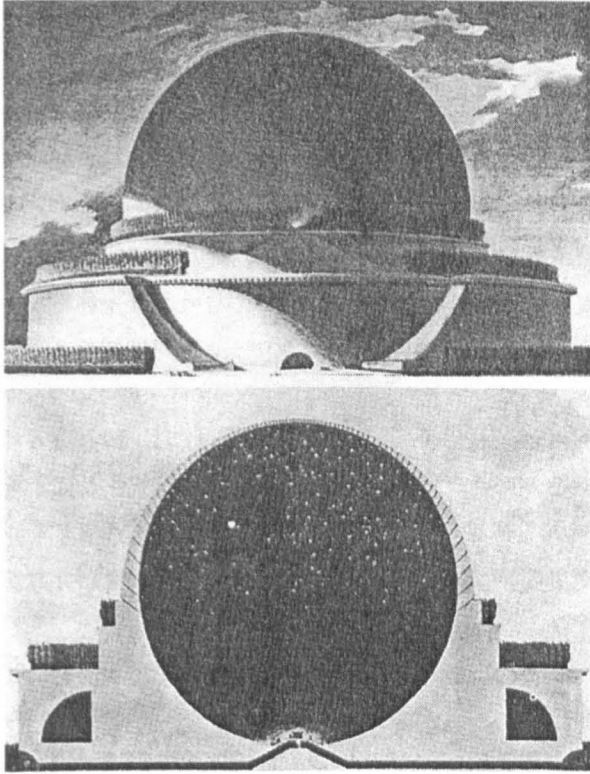


[Fig. 5-118] Regulating lines on the façade of Maison Ozenfant by Le Corbusier and Pierre Jeanneret, 1923

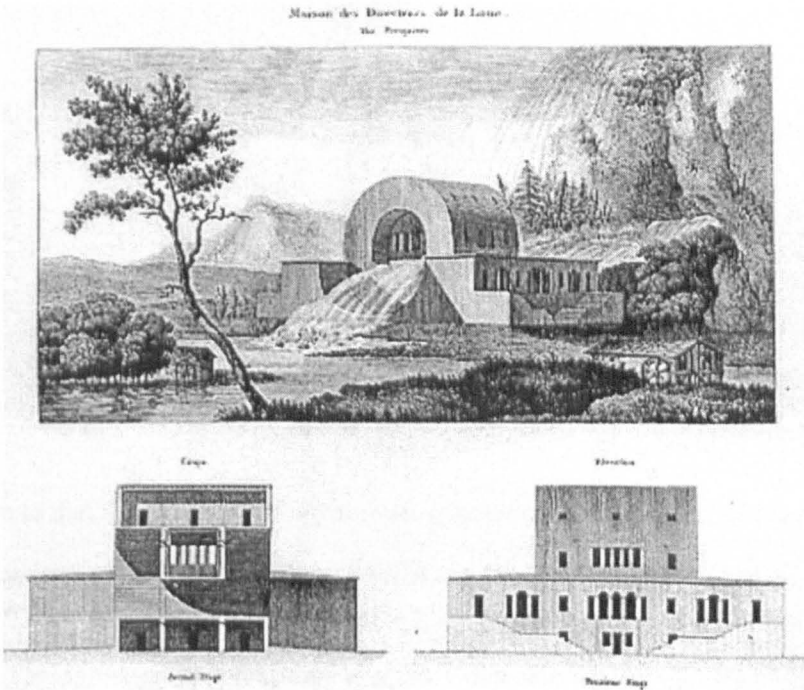


<sup>187</sup> In addition, Jean-Nicolas-Louis Durand (1760-1835) was very influential with his system of types and grids, and much later the typological beliefs seemed to be succeeded by Aldo Rossi (1931-1997). On the other hand, Gropius's grid is purely technical and Mies's minimal for aesthetics.

[Fig. 5-119] Newton Hall plan by Etienne-Louis Boullée (1728-99)



[Fig. 5-120] The river guard's house on the Loue by Claude-Nicolas Ledoux (1736-1806)



In contrast, Häring urges a change of attitude from imposing forms from outside (geometric) to letting things ‘unfold their own forms’ (organic). His organic functionalist theory can be understood best in his essay ‘Wege zur Form’ (Approach to form), published in [Die Form] in 1925, where he asserted that forms should grow from within according to functions, and regarded Le Corbusier’s geometric principles as something inimical and to be avoided.

We must discover things and let them unfold their own forms. It goes against the grain to impose forms, to determine them from outside, to force them according to abstract laws. ... And we were also wrong in bringing things back to geometrical or crystalloid basic forms because that is to exert force on them (as Corbusier does). Basic geometrical figures are not original natural shapes for forms, they are abstract and derived from intellectual laws. ... A polished metal sphere appeals to us intellectually, but a flower is an emotional experience. ... We are therefore, against the principles of Corbusier (but not against Corbusier).<sup>188</sup>

**[Fig. 5-121] Le Corbusier’s drawing of Herring (mocking Häring), in a letter to Giedion**



It is unfortunate that the two figures’ theoretical opposition also transferred itself to a political conflict in modern architectural history. That is, in the founding of CIAM in 1928 and the

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<sup>188</sup> Häring, H. (1925) ‘Wege zur Form’, *Die Form*, no. 1. Republished in English as ‘Approaches to Form’ in *AAQ* (1978), vol. 10, no. 1. London, p. 21.

organisation of the conference in subsequent years, Häring, who was a representative of Berlin architects and *Der Ring*, was deliberately pushed away from the central stage by Corbusier and Giedion and eventually deprived of membership. As a result, the German organic tradition was not properly understood for a long time in modern architectural history.<sup>189</sup>

This kind of conflict, ‘the organic versus the geometric’, had already occurred in Stuttgart one year before the foundation of the CIAM. The Weissenhofsiedlung Exhibition in 1927<sup>190</sup> was the case. Its site plans by Ludwig Mies van der Rohe (1887-1969) and by Hugo Häring implied the concepts, ‘geometric’ and ‘organic’ respectively. Adopting Adolf Behne’s view, Mies’s attitude could be seen as ‘Rationalism’, but Häring’s as ‘Functionalism’.<sup>191</sup> The two architects were founding members of *Der Ring*,<sup>192</sup> a German modern architects group – in which Häring was a secretary, and they shared the office together in Berlin at that time. Although the housing exhibition was organised by the *Deutsche Werkbund* under the supervision of Mies, vice-chairman of the *Werkbund*, Häring’s collaboration was very active at the first stage of the project. However, there was a deep gulf between the two architects’ design concepts. Blundell Jones (1999; 2002) pointed out that the site plan presumably by Häring followed the contours of the site and showed interconnected houses, while Mies’s revised version did not have any sympathy with the terrain of the site and let all the houses be free-standing objects. Even though Häring’s idea could not be pursued and he withdrew from

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<sup>189</sup> Blundell Jones, P. (1999) *op. cit.* and Wilson, C. S. J. (1995) *The Other Tradition of Modern Architecture: The Uncompleted Project*, Academy Editions, London

<sup>190</sup> Considering the fact that many key architects (Mies, Häring, Taut, Behrens, Gropius, Scharoun, Oud, Corbusier, etc.) participated in the project and the fact that it became a threshold of the subsequent foundation of CIAM (1928) and of the so-called ‘International Style’, the exhibition must be one of the most important historical events in modern architecture. Concerning it, see Joedicke, J. (1989) *Weissenhofsiedlung Stuttgart*, Karl Krämer Verlag, Stuttgart, and Blundell Jones, P. (2002) *Modern Architecture Through Case Studies*, Architectural Press, Oxford.

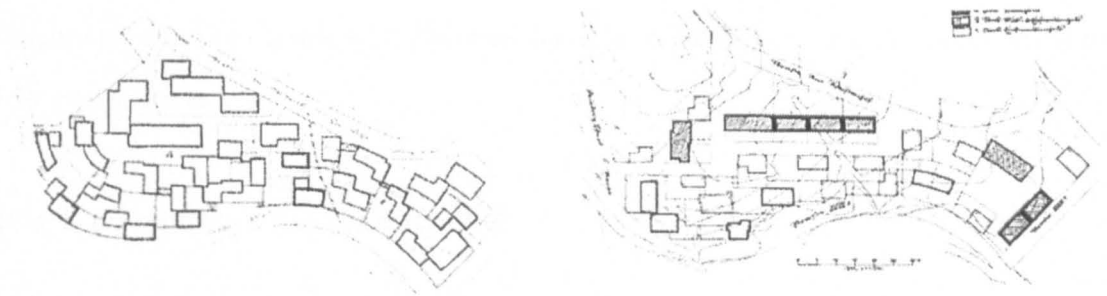
<sup>191</sup> Behne, A. (1923) *The Modern Functional Building*. Republished in 1996 by Getty Research Institute, Santa Monica, CA.

<sup>192</sup> At first, it was initiated as *Zehnerring* (Ring-of-ten) in 1923 or 1924 by Berlin architects, but expanded as *Der Ring* (The Ring) in 1926 including many other figures from different cities. In founding the organisation, Mies and Häring were at the centre and the latter was elected as a secretary. For a detailed account, see Blundell Jones, P. (1999) *op. cit.* pp. 99-104.



the exhibition,<sup>193</sup> the project became a very good example that manifests how different the modernists' concepts were despite their shared opposition to conservative historicism.

[Fig. 5-122] Weissenhofsiedlung site plans presumably by Häring (left) and revised by Mies (right), 1927



Although Häring's 'Organisches Bauen'<sup>194</sup> could not gain broad support outside Germany, another contemporary architect with a similar concept had been spotlighted world-wide – he is the American master Frank Lloyd Wright (1867-1959). As well known, Wright succeeded to and developed his teacher Louis Sullivan's notion of 'organic architecture' and applied the idea to his designs broadly.

In buildings we are building there the movement has developed and grown up as the trunk of the tree sends out branches and foliage. We practise these principles and ideals every day grappling with life and with nature at first hand in every way possible to us.<sup>195</sup>

In spite of the conceptual resemblance of 'organic', the architectural forms employed by Wright and Häring are as different as 'the geometric' and 'the organic' are. If many of Häring's plans include free lines and skewed angles, most of Wright's Usonian houses

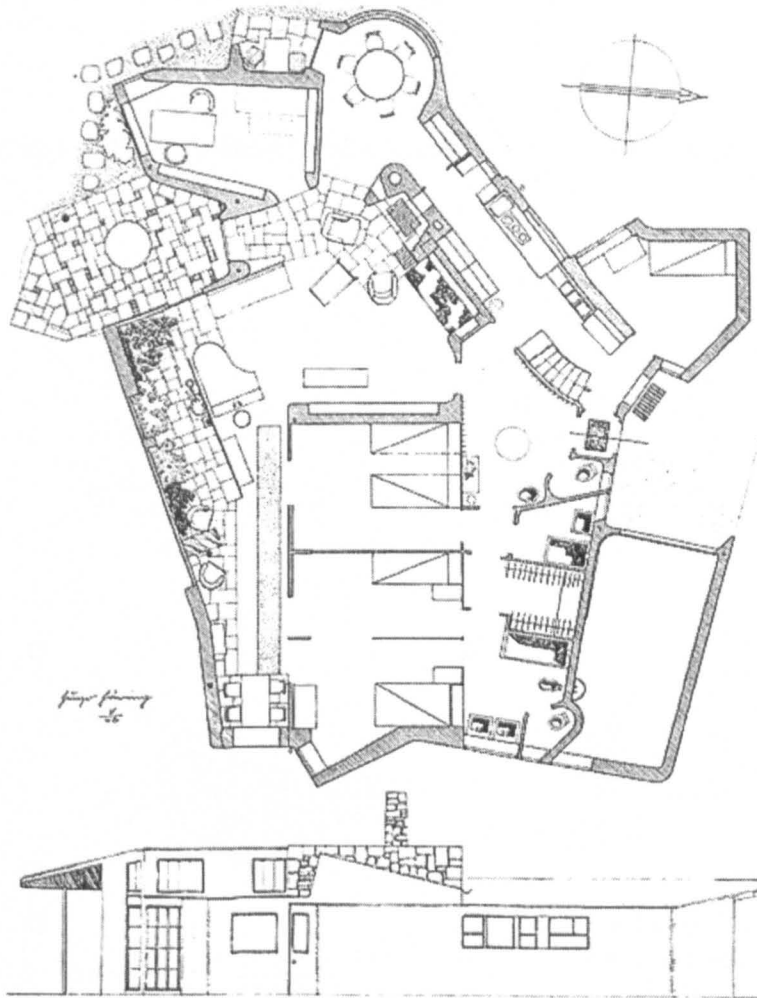
<sup>193</sup> Another important reason of the two architects' conflict and Häring's withdrawal was their different views of the design fees for invited architects. See Blundell Jones, P. (1999) *op. cit.* p. 103.

<sup>194</sup> *Ibid.* p. 8.

<sup>195</sup> Wright, F. L. (1939) *An Organic Architecture: The Architecture of Democracy*, Lund Humphries & Co. Ltd. London, p. 10.

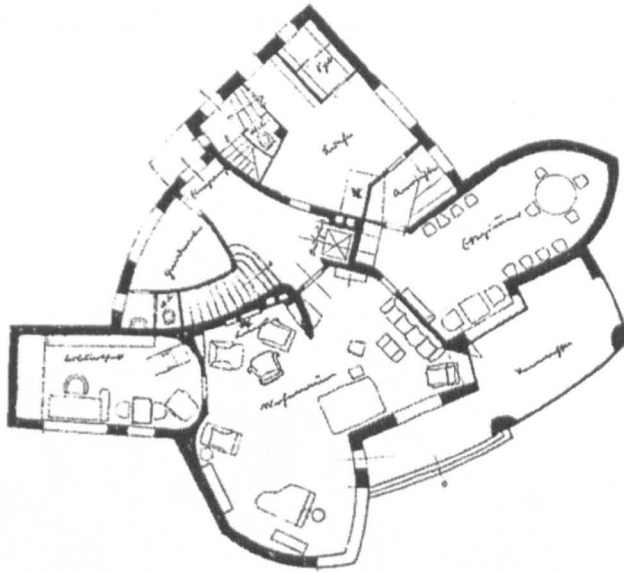
were designed on the basis of rectangular (square) and hexagonal modules<sup>196</sup> – even circular plans were controlled by radial-shaped regular lines from the centre point. (Fig. 5-126) To Häring, organic forms were content-driven forms without any geometrical constraints – the forms might be rectangles but they are just results from functions. On the other hand, to Wright, the geometrical modules were fair means to accomplish his organic architecture because the cell-like module multiplies space-units and enables the space to expand as far as its function wants.

[Fig. 5-123] Häring's house project, 1946

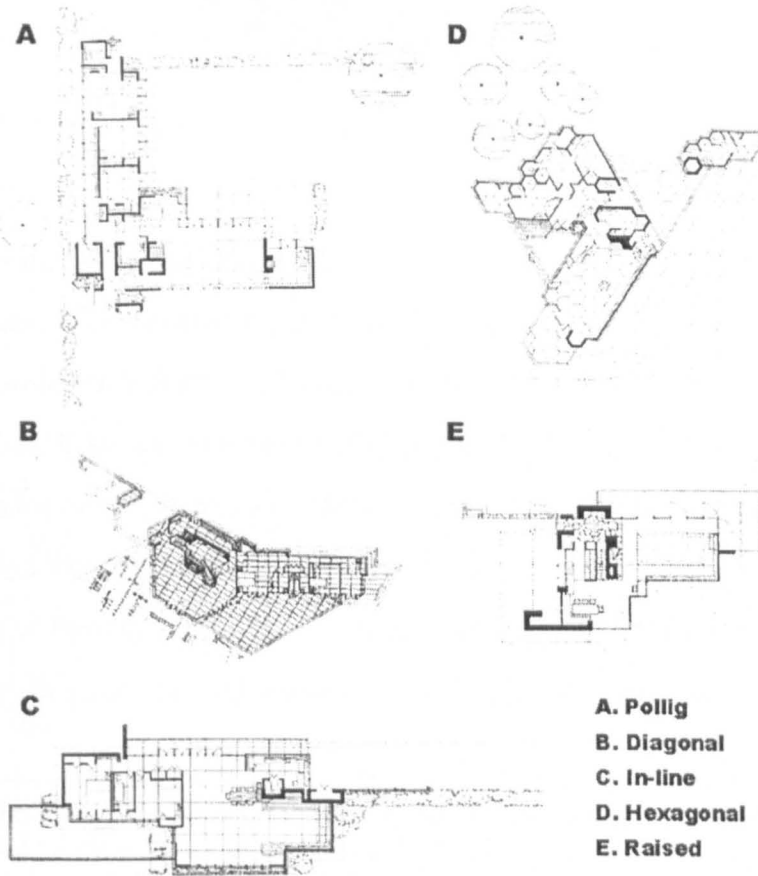


<sup>196</sup> In the description of his Hanna House (California, 1936) at RIBA lecture in 1939, he said that 'the hexangle is better suited to human movement than the rectangle'. *Ibid.* p. 39.

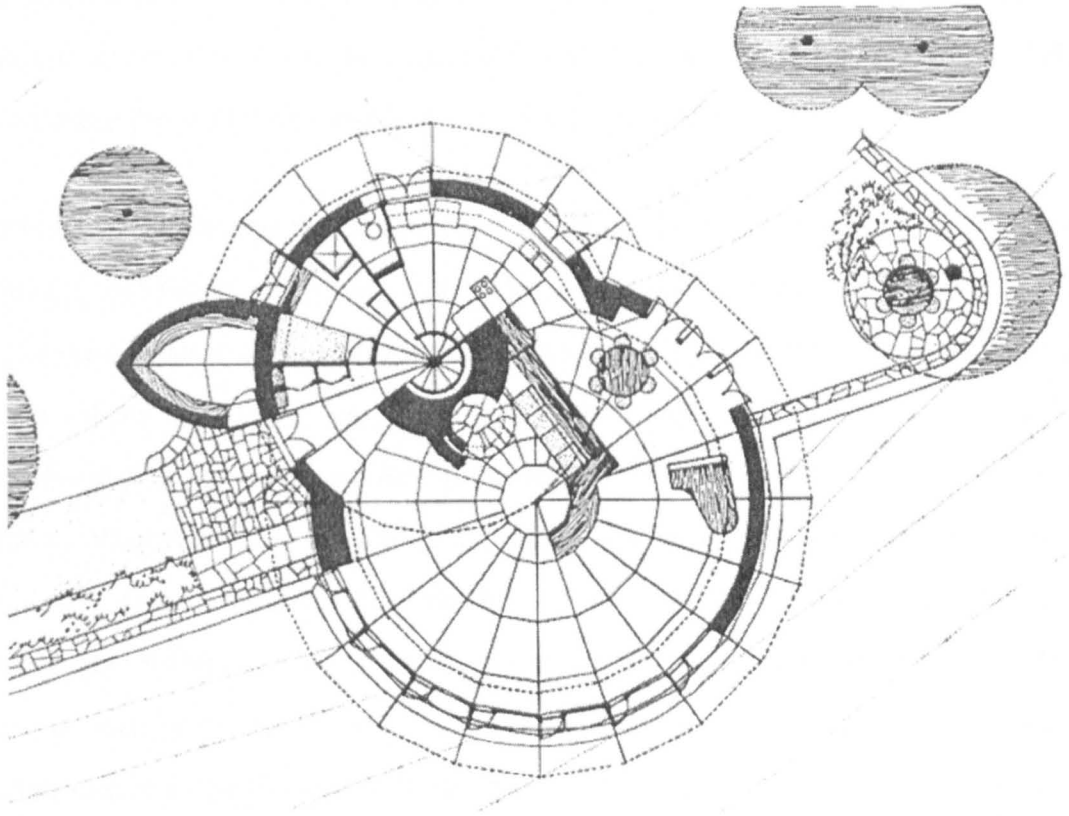
[Fig. 5-124] Häring's house project, 1923



[Fig. 5-125] Wright's Usonian House plans, five types according to Sergeant (1976)



[Fig. 5-126] Radial module of Wright's Friedman House in New York, 1950



Returning to Aalto, his architecture has also been involved with the term, 'organic'. Bruno Zevi treated Aalto as an important figure in his book [Verso un'Architettura Organica] (1945), which was published in English in 1950 as [Towards an Organic Architecture]. From the 2nd edition of [Space, Time and Architecture] (1949), Giedion described Aalto's architecture as 'the leap from the rational-functional to the irrational-organic'<sup>197</sup>, and mentioned an affinity with Frank Lloyd Wright's 'organic architecture'.<sup>198</sup> Jürgen Joedicke (1959) expressed Aalto's spatial pattern of flowing movement as 'organic movement' and tried to show the organic element also in his glass vases and wooden chairs.<sup>199</sup> Kenneth Frampton (1980) thought that

<sup>197</sup> Giedion, S. (1949) *Space, Time and Architecture*, Oxford University Press, Geoffrey Cumberlege, London, Harvard University Press, Cambridge MA, p. 454.

<sup>198</sup> *Ibid.* p. 352.

<sup>199</sup> Joedicke, J. (1959) *A History of Modern Architecture*, The Architectural Press, London, p. 116.

Aalto's 'free planning' principles established his 'organic approach' and brought him together with Hans Scharoun and Hugo Häring.<sup>200</sup> In addition, he named Aalto's approach 'organicism' (1998).<sup>201</sup> William Curtis (1982) understood Aalto's organic character within an 'organic tendency' of the Nordic countries,<sup>202</sup> and Peter Blundell Jones (1974; 1995; 1999) put him together with Wright and Häring in an 'organic tradition'.<sup>203</sup>

Although his architecture has frequently been categorised as 'organic' along with Wright's or Häring's architecture, there still exist clear differences between them. By raising the differences, I hope to show Aalto's reconciling gesture of 'geometric' and 'organic'. Above all, Aalto did not present any principle of the 'organic' unlike the senior masters. This fact signifies that, at least, he did not form an oppositional composition of the two concepts in his practice. Whenever he was asked about his architectural theory in his later years, he responded, "I answer with my buildings."<sup>204</sup> This does not mean that he did not say anything about architecture. Rather, it means that although he published articles and delivered lectures from time to time, he did not intend to formulate a theory that stands apart from architectural imagination and creation. Generally speaking, architects make use of theories to rationalise their works, but the works frequently go beyond the theories.<sup>205</sup> In that sense, Aalto was clever enough to make few theoretical traps to fall into in retrospect. Secondly, if Wright's organic architecture preferred to remain within geometrical module systems and if Häring's

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<sup>200</sup> Frampton, K. (1980) *Modern Architecture: A Critical History*, Thames & Hudson, London, pp. 192-202.

<sup>201</sup> Frampton, K. (1998) 'The Legacy of Alvar Aalto: Evolution and Influence'. In Reed, P (ed.) (1998) *Alvar Aalto: Between Humanism and Materialism*, The Museum of Modern Art, New York, pp. 119-39.

<sup>202</sup> Curtis, W. (1996) *Modern Architecture Since 1900*, Phaidon, pp. 452-469.

<sup>203</sup> Blundell Jones, P. (1978) 'Organic Versus Classic', *AAQ*, vol. 10, no. 1, pp. 10-20; (1995) *Hans Scharoun*, Phaidon, p. 14; and (1999) *op. cit.* p. 9.

<sup>204</sup> Schildt, G. (1986) *op. cit.* p. 227. Also see Zevi, B. (1950) *Towards an Organic Architecture*, Faber & Faber, London. (Original edition *Verso un'Architettura Organica*, Einaudi, Turin 1945), p. 57.

<sup>205</sup> Blundell Jones, P. (1999) *op. cit.* p. 212.

Architects need theoretical statements to convince clients, critics, and not least themselves, but these usually bear a somewhat tangential relationship to the work. In the cases of Le Corbusier, Mies, Hannes Meyer, and Häring one can reasonably say that the work transcends the theory, and fortunately so: great artists work primarily within their medium, otherwise they would not be great artists.



*Organisches Bauen* frequently formed an irregular space, on the contrary, Aalto was less bound with the formal issue neither of geometry nor of organic. As occasion demands – particularly in case of spatial requirements, circulation’s sake, topographical concerns, lighting function, acoustic function and optical function, he drew both straight lines and curvilinear ones. The consideration of necessity let him not only follow conventional forms but also to create his unique formal languages. This superimposition of organic forms and geometric forms in one plan directly indicates their initiation of reconciliation. Thirdly, he often depended on intuition. The intuition had sometimes been interpreted as ‘irrationality’,<sup>206</sup> or ‘exaggerated individuality’ or ‘personal vagaries’,<sup>207</sup> but to Aalto it was one of rational methods in design as he suggested (1972): “Intuition can sometimes be astonishingly rational.”<sup>208</sup> And, very significantly, his intuitional ways were deeply related with ‘play’ as a fundamental element of art.<sup>209</sup> The concept of ‘play’ had been explored by the Dutch historian Johan Huizinga (1872-1945). In the book [*Homo Ludens*] (1938), he emphasises the significance of play as a ‘cultural phenomenon’ in human civilisation and calls our species *Homo Ludens* or Man the Player. According to him, ‘we must be more than merely rational beings’ since ‘we play and know that we play’.<sup>210</sup> There is something that cannot be grasped by ‘reasoning’ in our life. That is why he argued for *Homo Ludens* beyond *Homo Sapiens*. While Wright’s loyalty to the concepts that ‘Form Follows Function’ and ‘Form and Function are One’<sup>211</sup> and Häring’s organic functionalist theory of *Leitsungform* or content-driven form

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<sup>206</sup> Giedion, S. (1967) *op. cit.* p. 620.

<sup>207</sup> Hitchcock, H. R. (1965) ‘Aalto versus Aalto: The Other Finland’, *Perspecta*, vol. 9-10, pp. 131-166.

<sup>208</sup> Schildt, G. (1972) ‘Interview with Alvar Aalto’, Finnish Television. Printed in: Fleig, K. (ed.) (1978) *Alvar Aalto: Band III*, Verlag für Architektur Artemis Zürich, pp. 232-233. We need to note that Descartes had also relied on intuition at last after removing all unclear things. Descartes, R. (1968) *Discourse on Method and the Meditations*, Penguin Books, London

<sup>209</sup> Schildt, G. (1972) *op. cit.*

When my old friend Yrjö Hirn, Professor of Aesthetics and the History of Literature, says that one of the fundamental elements of art is play, I agree with him wholeheartedly.

<sup>210</sup> Huizinga, J. (1949) *Homo Ludens: A Study of the Play-Element in Culture*, Routledge & Kegan Paul, London, p. 4. As he clarifies in the foreword of the book, he again implies, in the phrase of ‘more than merely rational beings’, the denial of the naïve optimism that the name *Homo Sapiens* connotes.

<sup>211</sup> Wright, F. L. (1939) *An Organic Architecture: The Architecture of Democracy*, Lund Humphries & Co. Ltd. London, p. 4.

emphasise the pure relation between ‘form’ and ‘function’, Aalto’s room of ‘play’ suggests something beyond ‘function’ in ‘form’ that enabled him to overcome the rigid dichotomy of ‘geometric’ and ‘organic’. Additionally, in a broader sense, the play brings forth a ‘symbolic function’ and makes possible, if borrowing Wittgenstein’s term, *sinnvolle Unregelmässigkeit* or ‘meaningful irregularity’.<sup>212</sup>

In the Villa Mairea, we can see Aalto reconciling the two concepts. Speaking from the aspect of the form, the house contains various ‘organic curves’<sup>213</sup> while developed within the orthogonal configuration as a whole.<sup>214</sup> To Aalto, irregular curves and rectangular lines were no more contradictory but supplementary each other. Behind the formal concerns, however, there was a more basic motif in the design. That is the endeavour to ‘find the right relationship’ between each part and layer of the house, which resolves the polarity in a fundamental level and eventually throws all the dichotomised discussion into the shade. This could be verified from the analysis of the long design development – the form was not given all at once – and it suggests the following set of issues in design. The first is the relationship between parts and the whole. There is never one building but always a group of rooms, wings and spaces in a heterotopic relation, so that the parts have identities while contributing to the whole. The identities of these parts and their relations with each other have to be negotiated. This point could go back to Pugin at least.<sup>215</sup> The second is the relation between the inside and the outside. The approach from the inside out (functional form) and that from the outside

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<sup>212</sup> Wittgenstein (1938) shortly wrote down about irregularity of music and architecture, which is akin to that of language. As for architecture, he had in mind Gothic, especially the towers of St. Basil’s Cathedral. See Von Wright, G. H. (ed.) (1980) *Culture and Value*, Basil Blackwell, Oxford, p. 34.

<sup>213</sup> See ‘Chapter 5.1.4. Curvilinear Elements: Rationality and Playfulness’.

<sup>214</sup> See the whole design development in ‘Chapter 3. Villa Mairea, The Lost Memories’.

<sup>215</sup> Pugin’s architectural ‘true principles’ were based on ‘two great rules’: ‘1<sup>st</sup>, that there should be no features about a building which are not necessary for convenience, construction, or propriety; 2<sup>nd</sup>, that all ornament should consist of enrichment of the essential construction of the building’. And he argues: ‘In pure architecture the smallest detail should have a meaning or serve a purpose’. Pugin, A. W. (1895) *The True Principles of Pointed or Christian Architecture*, John Grant, Edinburgh, p. 1. To Pugin, Blundell Jones (1999) attributes the root of Functionalism of modern architecture: roughly, Pugin (1812-52) → Lethaby (1857-1931) → Muthesius (1861-1927) → Fischer (1862-1938) → Häring (1882-1958), and he points out the purposefulness of parts and the whole in Pugin’s architectural principle: ‘For Pugin not only are the parts of a building supposed to make legible the differing internal uses; the building as a whole should declare its purpose.’ See Blundell Jones, P. (1999) *op. cit.* p. 161.

in (site, climate and orientation) frequently intersect and need to be reconciled. It is important for Aalto and particularly so for the Villa Mairea because of the sensitive mixture of the spatial inward-ness (the enclosed courtyard as an outdoor room) and outward-ness (the living room as an inner exterior).<sup>216</sup> The third is overlapping of layers. The site provides the first layer, and then elements of the building accumulate there. The design process is akin to a building growing and being altered or added to. The thing has its own history. In the case of the Stockholm Woodland Cemetery (1915-40) by Asplund and Lewerenz (Fig. 5-157), it is a gradual build up and re-adjustment of the design over 25 years. The success of this project is partly due to it being like a historic landscape reflecting the layers added by generations. The sheer geometric complexity reflects the layering process. The fourth is 'coincidental planning', which could be explained best in the cowshed of Häring's Gut Garkau (see Fig. 5-31).<sup>217</sup> The forms of its section and plan are fit for several functions not for only one. The sectional form provides ventilation, movement of fodder and rainwater, and the plan form allows movement of animals, distribution of fodder and the relation of cows to bull. As it were, the final *Gestalt* of this building is the optimum for fulfilling all the functions at the same time. This was also true to the Villa Mairea. In conclusion, the dialectic of this set of issues can draw a proper output of each design. As examined in the design development of the Villa Mairea, nothing is there from the very beginning to the very end in the same place on the site. It is all adjusted and re-adjusted if at the same time cumulative. For Aalto, it was very important to keep this open-ness and flexibility and to allow any dimension and any angle, in order to explore how the relationship of parts could develop.<sup>218</sup> If one imposes a fixed grid at the beginning and keeps it until the end, it has to run always on the same tramlines. Therefore, the final 'geometry' – whether pure forms or irregular – is the product of a long process exploring a

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<sup>216</sup> For Aalto's conception of the inside and the outside, see 'Chapter 5.2.3. Interior Landscape'.

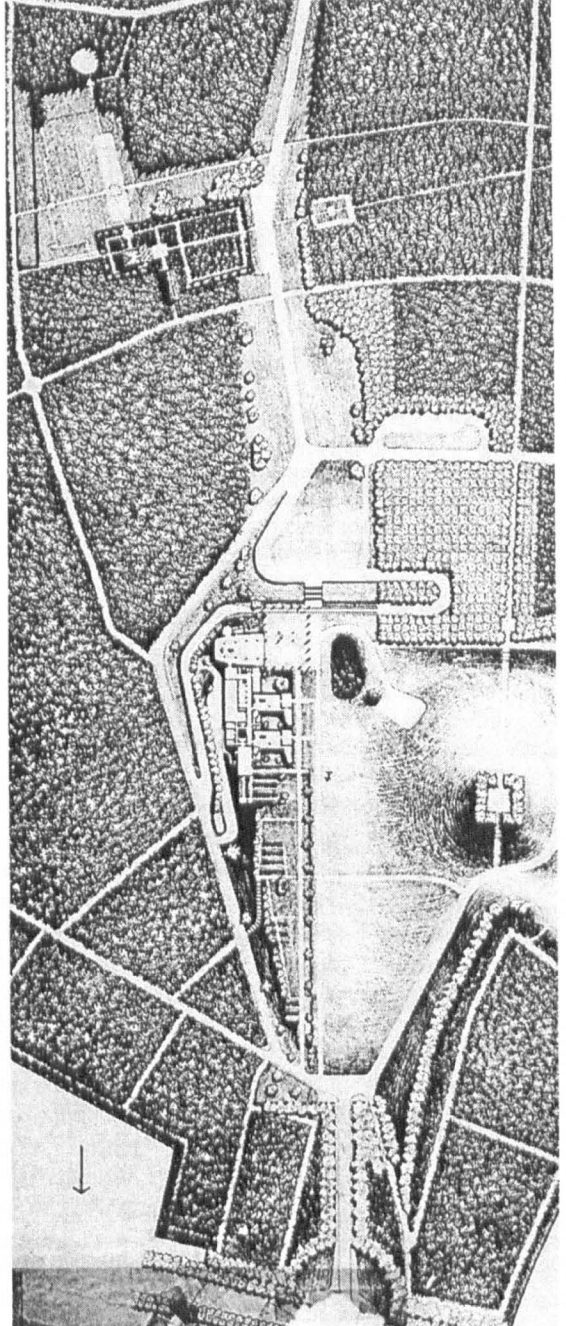
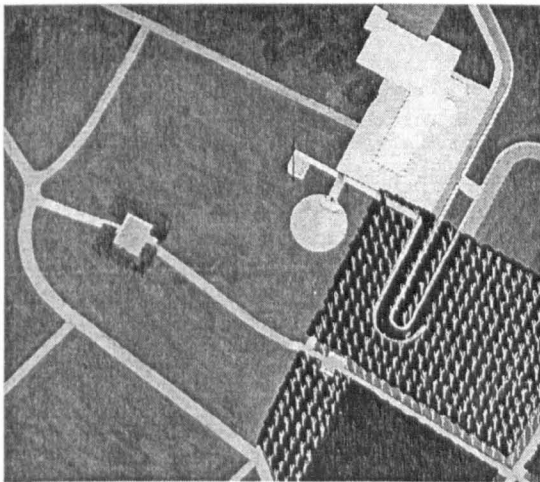
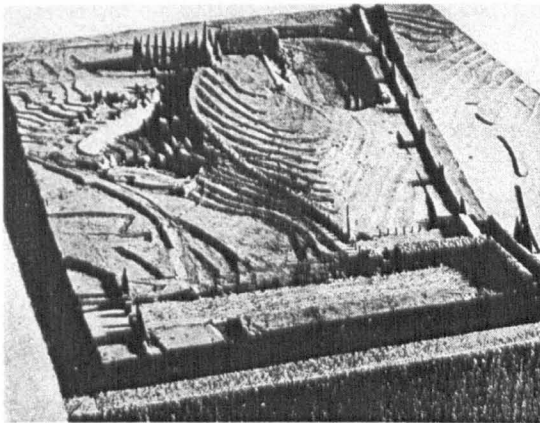
<sup>217</sup> Blundell Jones, P. (1999) *op. cit.* p. 60.

This coincidental planning [both in plan and in section of the cowshed] is a crucial innovation, of vital importance for Functionalist theory. Seldom does a single function impose demands strong enough to determine a form, but a coincidence of several functions may suggest a particular form that lies, so to speak, between them, is their mutual product, and is unique in answering all requirements.

<sup>218</sup> Perhaps, this approach was particularly significant to Scharoun's design.

range of ideas and also how they might come together.

[Fig. 5-127] Stockholm Woodland Cemetery by Asplund and Lewerenz, 1915-40: view from northern entrance to Woodland chapel (left top), model of competition entry, 1915 (left middle), gouache of chapel and landscape, 1932 (left bottom) and final plan around chapel and crematorium, 1935-40 (right)



### 5.3.4. Reconciliation of 'Masculine' and 'Feminine'

Where is she? Activity/passivity. Sun/Moon. Culture/Nature. Day/Night. Father/Mother. Head/Heart. Intelligible/Palpable. Logos/Pathos. ... And the movement whereby each opposition is set up to make sense is the movement through which the couple is destroyed. (Cixous, 1975)<sup>219</sup>

Because of the (enforced) tacit approval of male dominance in every social system, to mention the word 'feminine' appears quite legitimate – because everything except 'a few' things feminine is masculine in this logic. Against this situation, the feminist movement started in the late 1960s and the early 1970s in various cultural areas,<sup>220</sup> and, in the architectural profession and projects, also, many voices to (re)habilitate women's status have been raised.<sup>221</sup> For this reason, to study a building focusing on 'femininity' is meaningful.<sup>222</sup> In this chapter, I am going to describe some possible feminine characteristics of the Villa Mairea under the consistent topic of 'reconciliation'. Even if this trial might be a leap in argument in some senses, it is not implausible. First, one may raise the argument that no matter how prominent a

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<sup>219</sup> Cixous, H. and Clément, C. (1986) 'Sorties', *The Newly Born Woman*, University of Minnesota Press, pp. 63-64.

<sup>220</sup> In feminist literary theory, there are two perspectives: one is 'constructionist' who thinks that 'gender is made by culture in history'; and the other is 'essentialist', perceiving that 'gender reflects a natural difference between men and women that is as much psychological, even linguistic, as it is biological'. Rivkin, J. and Ryan, M. (1998) 'Feminist Paradigms'. In Rivkin, J. and Ryan, M. (ed.) (1998) *Literary Theory: An Anthology*, Blackwell, Oxford, pp. 527-532. In contrast, Alison M. Jaggar has categorised feminism into four for a systematic explanation of the feminist theory: liberal feminism, Marxist feminism, radical feminism, and socialist feminism. Jaggar, A. M. (1983) *Feminist politics and human nature*, Rowman & Allanheld Harvester, Totowa, NJ and Brighton

<sup>221</sup> For example, Denise Scott Brown described in 'Sexism and the star system in architecture' (1989) how her position as an architect easily fades away into the shade of her husband Robert Venturi by many critics (not by her husband), and Alice T Friedman laid stress on a woman's (Bess) subjectivity in a country house (Hardwick Hall, 1590-97) in her paper 'Planning and representation in the early modern country house' (1992). Both were republished in Arnold, D. (2002) 'Reading Architectural Herstories: the discourse of gender', *Reading Architectural History*, Routledge, London, pp. 199-217.

<sup>222</sup> There is an interesting article by Sarah Wigglesworth, in which she describes Maison de Verre (1929-31) – a combined building of a gynaecologist's family home and hospital – focusing on 'femininity' and regards the body of the house (especially the interior) as the body of a woman. Wigglesworth, S. (2000) 'A fitting fetish: the interiors of the Maison de Verre'. In Borden, I. and Rendell, J. (ed.) (2000) *InterSections: Architectural Histories and Critical Theories*, Routledge, London and New York, pp. 91-108.



certain feminine character is, it does not guarantee its reconciliation with masculinity. In reverse, it would rather broaden the gap between the two. But as in the premise of 'reconciliation', I argue, reconciliation starts from coexistence. Lack of one part cannot initiate even the trial. Second, to some feminists, the concept of 'reconciliation' possibly means a clever device to trap the women's gender within a much stronger masculine system. However, the viewpoint to see the two in a struggling relation, each trying to defeat the other, is beyond the boundary of this thesis. Here, I want to peep into several 'herstories' around the Villa Mairea project, which at least draw more interest in women in architecture.

Architectural writings deal with various areas. Among them, the following three are largely the typical aspects: on 'producing architecture'; on 'architectural space'; and on 'architectural metaphor' – on the basis of which aspects, I will proceed with this discourse. The first, conventionally, 'doing architecture' or 'producing architecture' was regarded as a men's job. Here, I mean by 'producing architecture' every kind of activity involved in 'making a building' – from 'planning' via 'designing' and 'constructing' till 'maintaining a building'. In this whole process of the Villa Mairea project, the women's role was very active both on the side of the client and the architect, *i.e.* Maire Gullichsen and Aino Marsio-Aalto (1894-1949). Particularly, from the side of the clients, Maire's initiative – rather than Harry's – was prominent as I have described.<sup>223</sup> Taking just a few instances, the blue tile finish in the exterior dining room corner and the tilted white steel column under the studio were the results of Maire's demands during the designing and constructing stage of the house. And not only in the initial garden design but also in its maintaining and developing of the surroundings, she was involved very deeply till her death.<sup>224</sup> In later days, she even argued that every detail had been discussed. This kind of initiative on Maire's part was possible for many reasons. Most of all, she had her own strong artistic will as a painter and art collector, and as the woman of the

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<sup>223</sup> See 'Chapter 2.2. The Clients, Maire and Harry Gullichsen'.

<sup>224</sup> 'The garden is for the most part the hand of Maire Gullichsen.' The 7th Nordic Garden Exhibition (1949) *Suomen puutarhoja – Trädgårdar i Finland (Finnish Gardens)*, Kustannusosakeyhtiö Kivi, Helsinki, p. 105. Quoted in: Pallasmaa, J. (ed.) (1998) *op. cit.* p. 163.

house she had more interest in the domestic world than her businessman husband. Additionally, the liberalist young couple needed not adhere to patriarchal androcentrism in their family matters. What was more critical, however, is that their family background supported the situation. That is to say, because Harry was a successor of Maire's grandfather's and father's business, and Noormarkku still had a living legacy of the Ahlström family, he naturally yielded the leadership of the project to his wife. That must be the reason that they named the house neither 'Villa Harry' nor 'Villa Gullichsen' but 'Villa Mairea'.

As far as the architects were concerned, Aino's<sup>225</sup> role seems to have been rather supplementary to Alvar's design as a whole. However, they were such a good joint architect couple that 'Alvar, with exemplary consideration for women's equality, usually generously presented Aino's contribution to the architectural achievements as the result of their joint work.'<sup>226</sup> Schildt (1984) describes their 'division of roles' in the following way.

According to Takala, Alvar was a poor draughtsman, at least inasmuch as he never had the patience to complete his architectural wash drawings in the prescribed manner. ... On the other hand, Aino Aalto drew with exceptional skill, sureness and patience. In this alone, then, she gave her husband extremely useful assistance. ... This prepared the way for a division of roles which the outcome proved very fortunate: Alvar could give his architectural visions free rein, since he knew that Aino would bring him back to earth.<sup>227</sup>

In the Villa Mairea project, Aino's role in the furnishing and interior design was crucial, which decisively gives the impression and atmosphere of the house.<sup>228</sup> We could feel Aino's breath in the Villa Mairea through several ways. Firstly, many pieces of Artek furniture, for which

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<sup>225</sup> She also graduated from the Department of Architecture, the Helsinki Institute of Technology like Aalto, but two years before him.

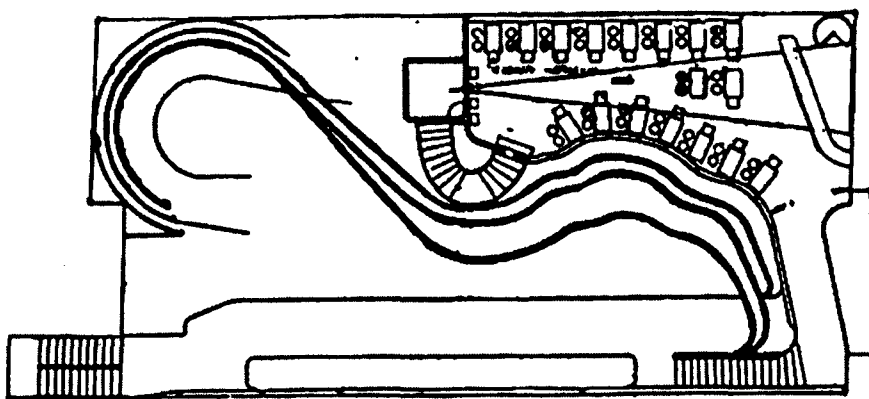
<sup>226</sup> Schildt, G. (1984) *Alvar Aalto: The Early Years*, Rizzoli, New York, p. 132.

<sup>227</sup> *Ibid.* p. 133. As general women, Aino needed to care for their children and to do housework. So, it is also natural that there should be the role division in their architectural profession.

<sup>228</sup> 'The furnishing as a whole were designed in close collaboration with the Gullichsens, but Aino Marsio-Aalto was ultimately responsible for executing the design.' Suominen-Kokkonen, R. (1998) 'The Interior Design'. In Pallasmaa, J. (ed.) (1998) *op. cit.* p. 129.

Aino's contribution was significant – Aino designed much more for the company than Alvar, were set in the house. Secondly, some important items of furniture, like the large dining table, were brought from Gullichsens' former Helsinki flat, which had been refurbished on the basis of Aino's design two years before. Thirdly, Aino designed special furnishings solely for the Villa Mairea, which include several living room benches, a 'Mairea armchair with removable cushions', conference tables, cabinets, and various lamp types.<sup>229</sup> Moreover, she played an important role in the kitchen design, and the later library extension (84/927-929) was also by her. In fact, Aino seemed not only satisfied with her supporting job for Alvar, but also had another ambition as an independent designer. In May 1938, when the Villa Mairea project was at the stage of the final design, the Aalto office submitted three entries to the competition for the Finnish Pavilion in the New York World Fair, among which was Aino's own independent design.<sup>230</sup> And, surprisingly, the two entries led by Alvar got the first and the second prizes and Aino's the third prize. A similar competition between Alvar and Aino had been keener in the Karhula-Littala glass design competitions: in 1932, Aino won second prize, but Alvar failed; in 1936, Alvar won first prize, but Aino failed.<sup>231</sup>

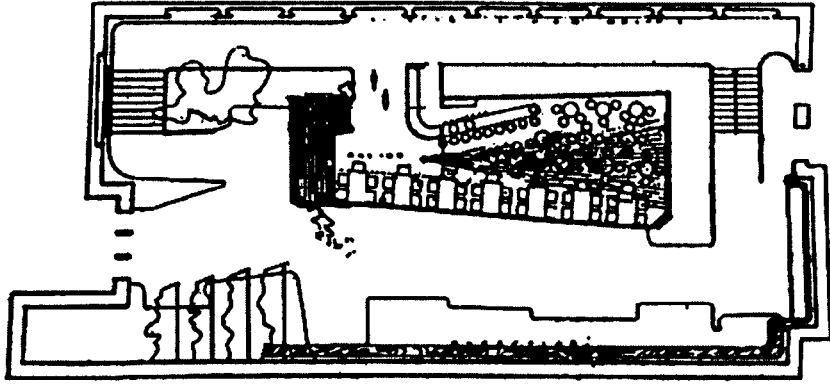
[Fig. 5-128] Finnish Pavilion entries by Alvar Aalto, New York World's Fair, 1939: the first prize scheme (top) and the second prize scheme (bottom)



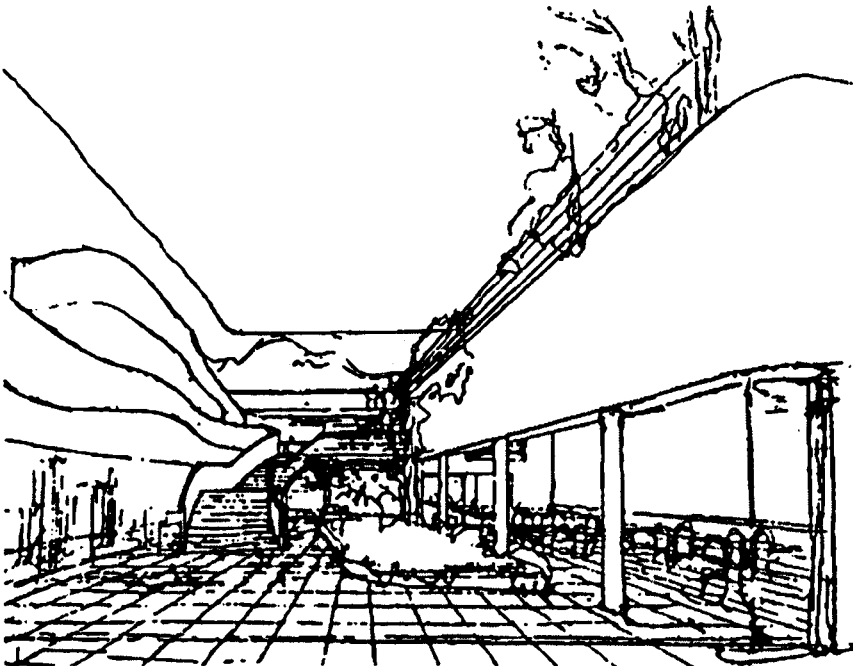
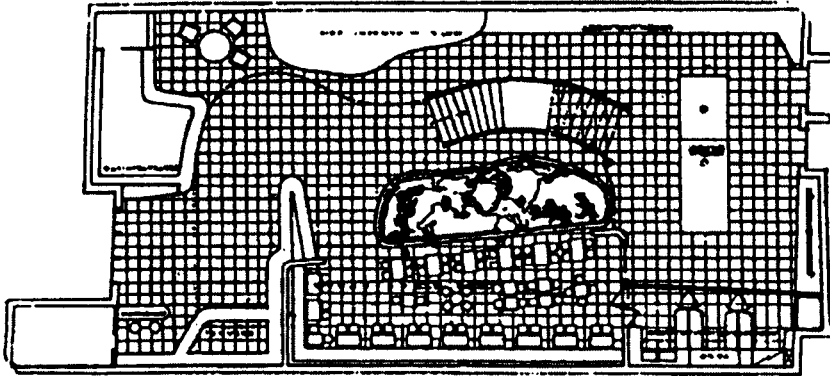
<sup>229</sup> Concerning the interior design and its furnishing, see Suominen-Kokkonen, R. (1998) *op. cit.*

<sup>230</sup> 'So we did two entries, but the general enthusiasm was so contagious that Aino suddenly quite calmly declared that she also intended to take part with an entry of her own.' Lisbeth Sachs's description. Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, Rizzoli, New York, pp. 161-164.

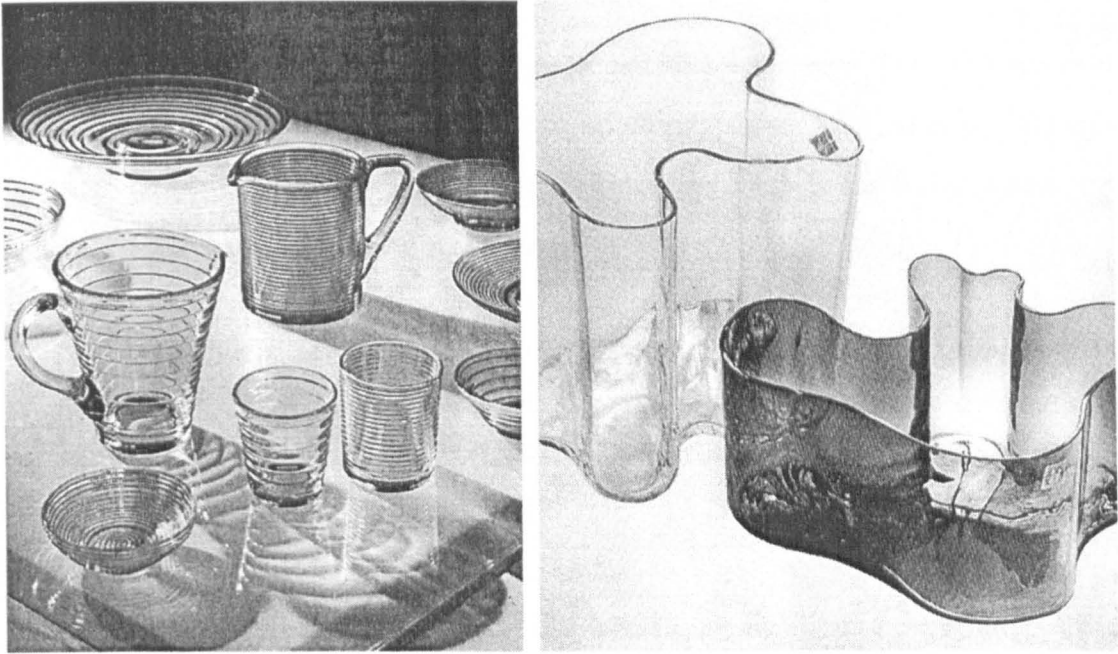
<sup>231</sup> Concerning their glass designs, see Schildt, G. (1986) *op. cit.* p. 136-139.



[Fig. 5-129] Finnish Pavilion entry by Aino Aalto, New York World's Fair, 1939: the third prize scheme



[Fig. 5-130] Aino's glass design, 1932 (left) and Alvar's glass design, 1936 (right)



Women's active professional careers, as in the cases of Maire and Aino, might be parallel with the country's situation, as some statistics show. 'Finland was the first country in the world to give equal voting rights to men and women in elections to the national parliament' in 1906; 'the first women MPs took their seats in the Eduskunta in 1907'<sup>232</sup>; 'by the 1860s higher education had become available to women'; and 'from 1870 onwards women were admitted to the University of Helsinki'.<sup>233</sup> In the architectural field, 'a total of 14 women graduated' from the Helsinki Polytechnic by 1908, which was exceptional because other European countries still had to wait to admit women in architecture.<sup>234</sup> Suominen-Kokkonen (2000) comments that the lack of academic educational tradition in Finland helped to remove the gender barriers, and Maarit Kaipainen (2000) raises another and more basic reason for it, 'A

<sup>232</sup> Singleton, F. and Upton, A. F. (1998) *A Short History of Finland*, Cambridge University Press, Cambridge, pp. 162-163.

<sup>233</sup> Suominen-Kokkonen, R. (2000) 'Finnish Women Architects of the Early Twentieth Century', *Virtual Finland* [online]. Available from [http://virtual.finland.fi/finfo/english/women/archi\\_women.html](http://virtual.finland.fi/finfo/english/women/archi_women.html) [Accessed 16<sup>th</sup> February 2004].

<sup>234</sup> *Ibid.*



country with relatively harsh, northern living conditions could not afford an idle class. Whether the wife of a crofter or a lady of the manor, there was always something to do.<sup>235</sup>

Moving on to a second feminine consideration, we can see a dominance of woman's spaces in the Villa Mairea. As a reformist, Alvar Aalto had already shown his concept of 'women's liberation' at home as well as at work and argued that modern house should reflect 'the complete transformation of the status of women'.

The patriarchal model of family life has changed drastically ... : the complete transformation of the status of women. Women's liberation and subsequent rise from subjection to a status of equality both at work and at home places completely new demands on the home.<sup>236</sup>

In the Villa Mairea, Maire's space seems to have had more significance than Harry's space even from the start of the design. The studio is representative of Maire's space, while the library signifies Harry's space. Yet, Aalto had concentrated a lot more on Maire's space in comparison with Harry's as I described in the chapter of the design process.<sup>237</sup> In brief, the studio had had a volumetric character from the exterior and had been critical in creating an interior landscape with undulating walls during the early design stages, while in the final plan it also had unique planimetric and volumetric shapes, different finishing material, its own balcony, entresols and staircase. In contrast, Harry's library, with a plain rectangular form, had changed position here and there for the sake of other spaces, and it faced the danger of nearly being discarded in the final building to make way for Maire's art library. Moreover, in many cases, spatial relationships clarify Maire's priority in this house. For example, Maire's rooms in the upper floor (the studio and her bedroom) occupy undisturbed corner spaces whereas Harry's bedroom faces the upper hall and a passage to the front balcony. Particularly, Maire's

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<sup>235</sup> Kaipiainen, M. (2000) 'Women architects in Finland', *Virtual Finland* [online]. Available from [http://virtual.finland.fi/finfo/english/women/archi\\_women.html](http://virtual.finland.fi/finfo/english/women/archi_women.html) [Accessed 16<sup>th</sup> February 2004].

<sup>236</sup> Aalto, A. (1930c) 'The Housing Problem', *Domus*, no. 8-10. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, pp. 76-84.

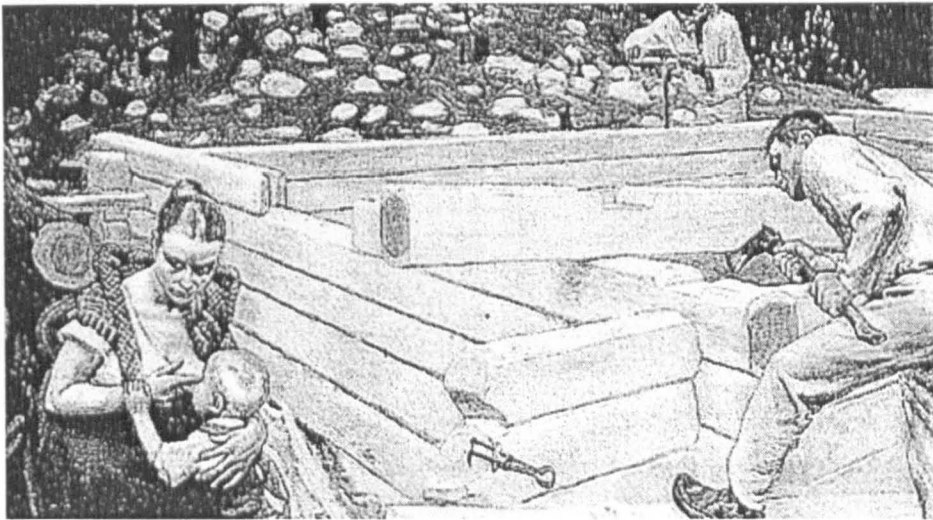
<sup>237</sup> For more detailed discussion, see 'Chapter 3.2.5. Studio and Pool'.

bedroom, located between her studio and her husband's bedroom, has easy circulation to necessary spaces, and has a symbolic dignity by protruding at the front to break the equilibrium with Harry's room. Before the comparison of the master's and the mistress's spaces, however, one of the most important functions of the house already stands on the side of Maire. That is, Aalto had focused on the art display and storage function more than any other matters for the art collector mistress. In most versions, Aalto designed the art display space in the main living area with partition walls except in the 'Proto-Mairea', where he planned an independent art gallery.

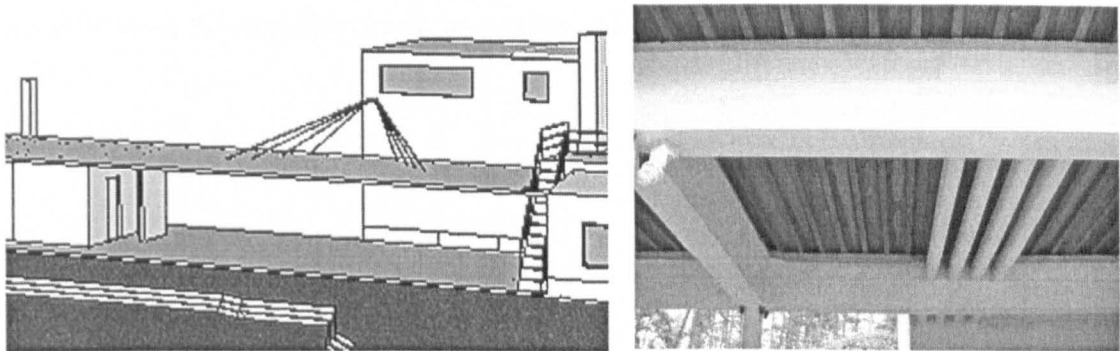
The third feminine consideration is that the Villa Mairea assumes a feminine metaphor in several facets. Most of all, a house itself has a mother image as a shelter in the Finnish harsh natural environment. Akseli Gallen-Kallela's painting '*Rakennus*' or 'Building' (1903) depicts it well. Amid a wild forest, men are building a log house and a woman breastfeeds a baby beside it. Though the mother gazes down the slope to guard against wild animals or sudden dangers, her left arm embraces the baby's back and the other hand guides one buxom breast to the baby's mouth. The mother-baby relation, as well as symbolising that of nature and mankind, also suggests the relationship of a human being and his/ her dwelling at the same time. That is to say, a house is a mother, who protects her children from a severe wind and wild animals and hugs them to her warm bosom. Likewise, the Villa Mairea amidst forest is a motherly home to the dwellers, where they can rest with comfort and security as in the womb, be nurtured and get energised physically and psychologically. On the other hand, if some vernacular images of the house – sauna hut, turf roof, unbarked timber, slate usage, etc. – allude to a rustic man, the modern clothes of it – white wall, blue tiles, glass block patch, modern interior furnishings, etc. – suggest the urbane lady well dressed up. Thus, the reconciliation of primitive and modern is also reminiscent of the shy meeting of a rural man and an urban lady. In addition, Pallasmaa (1985) perceived a transformation and enrichment of masculinity by femininity in the house: 'In the design of Villa Mairea, the masculine intellectuality of the main stream of modernism has been transformed and enriched by

inclusion of district female associations and an overall sensuality and tactility.<sup>238</sup> And he (1985; 1986; 1998) pointed out a ‘female connotation’ related with a stringed instrument in Cubist arts, which could be seen directly in Man Ray’s ‘*Le Violon d’Ingres*’<sup>239</sup> (1924). In the Villa Mairea, four concrete beams underneath of the terrace roof are strings of a violin, and the soundboard is the pool that also implies a sensual bodyline of ‘Ingres’. The string metaphor has already been implied in the suspension cords in the ‘Proto-Mairea’ terrace roof.

[Fig. 5-131] Rakennus, Akseli Gallen-Kallela, 1903



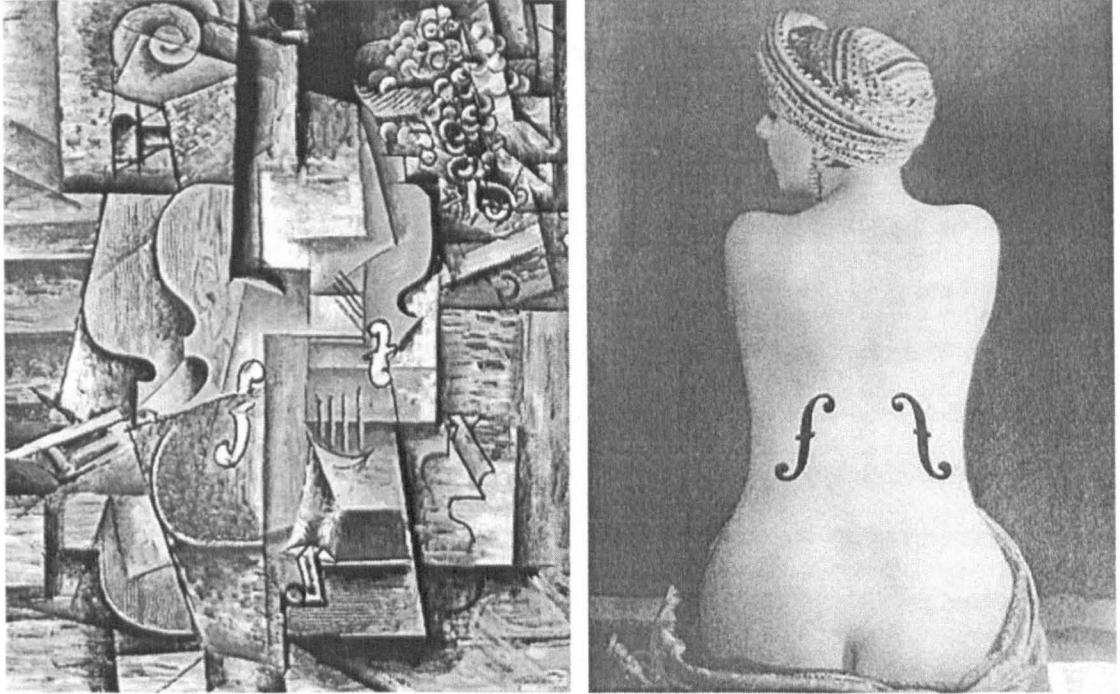
[Fig. 5-132] Cubists’ string elements in the Villa Mairea: suspension cords in the ‘Proto-Mairea’ (left) and four concrete beams underneath the terrace roof (right)



<sup>238</sup> Pallasmaa, J. (1985) ‘Villa Mairea-fusion of Utopia and Tradition’, *Alvar Aalto: Villa Mairea*, GA 67, A.D.A. EDITA Tokyo Co., Ltd.

<sup>239</sup> The title can be translated into ‘The Violin of Ingres’, but it is also a French idiom, meaning ‘hobby’.

[Fig. 5-133] 'Violin and Grapes' by Picasso, 1912 (left) and 'Le Violon d'Ingres' by Man Ray, 1924 (right)



Up to now, I described several stories of the Villa Mairea associating it with a female, based on the three categories. They are very different topics, but all draw interest to women, who still deserve further consideration. Owing to the influential mistress client and the liberal 'HAIRAL',<sup>240</sup> women's role and position were not undervalued in this project. But it was just a start towards the reconciliation of 'masculine' and 'feminine'.

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<sup>240</sup> The architects and the clients made the anagram from their names of Harry, Maire, Aino and Alvar. See Gullichsen, K. (1998) 'Foreword'. In Pallasmaa, J. (ed.) (1998) *op. cit.* p. 12.

## 5.4. Value of Experimentation

Before finishing the description about the Villa Mairea, I should summarise my arguments so far and highlight some key issues in the design. As I have emphasised, the Villa Mairea offered Aalto a wonderful experimental laboratory. In this project commissioned when he was around 40, he was able to examine his architectural concepts up to then and to investigate various possibilities for his later career. It was only possible thanks to the architects' firm collaboration with the clients, who allowed Aalto to do anything that he wanted to do in the design with a generous budget. This enabled him to go through various early versions with countless sketches, through which his ideas could become more elaborated and refined. This thesis analysed all the drawings and every early version of the house as closely as possible, which means that the object of interpretation was extended into the initial sketches, not limited to the final building. This allows us to read intentions that are illegible in the final design and to see how the ideas had changed and were re-applied to other works. The strong point of this thesis lies here. Although several critics have shown drawings of early versions, they are just fragmental and could not be woven into one story – neither did the authors intend to do so. Although Pallasmaa (1998) attempted to describe the sequence of the whole design development, he did not analyse the early stages in detail so his main text about the house does not address the effect of the early Mairea versions.

Among many experimental themes that I have set, the 'reconciliation of polarities' might be regarded as the dominant one, and lesser themes can also be related to Aalto's gesture of reconciliation. It starts with juxtaposition of seemingly contradictory elements, an obvious instance being the heterogeneous use of materials, for example, factory-produced blue tiles with rustic black slates at the dining room corner (Fig. 5-85), the balustrade of rustic timber and steel railings (Fig. 5-84), and unbarked saplings with white-rendered concrete columns under the entrance canopy (Fig. 5-60). This kind of mixture of opposites – industrial versus vernacular in these examples – led critics to conceive the idea of 'collage'. The collage

concept must be a fascinating interpretation for the Villa Mairea design not only because we can see the obvious juxtaposition of different elements but also because Aalto himself mentioned the design's relationship with modern painting.<sup>241</sup> However, I argue that we need to be cautious not to apply the concept unconditionally, for it seems to be adopted too easily as a panacea when critics have difficulty in finding other interpretations.<sup>242</sup> Although the collage idea can explain the Villa Mairea design to a large extent, its limitation is that it is mainly concerned with an image – which is only one facet of architectural interpretation – and it emphasises heterogeneity rather than synthesis. But as Aalto himself mentioned, he tried to reconcile every opposite, with emphasis more on synthesis than on heterogeneity. I can verify it with regard to mass, space and structure. As for the mass of the house, we can sense the 'head and tail' opposition (volumetric hierarchy) but they supplement each other and keep a symbiotic relationship because of the very polarity. In terms of space, the interior living room and the exterior courtyard were so deliberately crossed through the large removable windows that the boundary fades away. Structurally, he attempted an amalgamation of the conventional tectonics (a load-bearing wall system in the servant wing) with the re-asserted Corbusian principles (column supports and non-structural wall in the living room area).

A similar reconciliation of polarities can be noticed between Finnish or Nordic characteristics and modern ones. One good example is the thinly rendered white brick wall. The white wall reminds us of the *tabula rasa* International Style, but the revealed brick layers suggest the Nordic tradition of 'material realism' (Fig. 5-78).<sup>243</sup> By inflecting the dogmatic international element towards local tradition, he bridges the gap between the seemingly incompatible characteristics. In other words, when the international rationalism went too far, he tackled it and softened it through the regional manner. Besides this, we can encounter in the house several pair-sets of polarities. There are many symbols of modernity and of the International

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<sup>241</sup> Nevertheless, he mentioned neither 'collage' nor 'cubist' in his 'Mairea' description.

<sup>242</sup> Schildt objects to an unconditional application of the collage concept to Aalto's design. See 'Chapter 5.2.2. Space to Combine Art with Life', p. 234.

<sup>243</sup> Although it can also be seen as Aalto's adoption of Mediterranean tradition, I assert that it is Aalto's intentional combination of the international and the local tradition.



Style such as a flat roof, a white wall, a streamlined railing on the roof and a spiral stair (Fig. 5-77), but there are also typical vernacular elements like a sauna hut, a turf roof on the terrace, a rural farm-gate between the sauna and a hillock, handcraftsmanship of the rattan binding in rustic timber poles, and a rustic stone wall typically found in the Finnish medieval church yard (Fig. 5-61 and 80~83). Although the L-shaped plan was a dialectical result of functional consideration, it also reflects the Nordic aristocratic residence in terms of spatial hierarchy. And the enclosed courtyard (outdoor courtyard) and the large living room (indoor courtyard) reflect the courtyard of the Finnish vernacular farmhouse while at the same time they could be related to the spatial interpenetration and inside-outside transition of modern architecture. Within the modern shell of the house, we can perceive several Finnish elements such as the *tupa*-like living room, the massive white fireplace with an indentation, and a forest image with various columns and the vertical poles of the main staircase. On the other hand, Aalto wanted to be highly advanced in modern technology by introducing the air-conditioning system in the living room ceiling – which he proudly mentioned in his ‘Mairea’ description because it was a rare trial at that time. Aalto’s wonderful fusion of heterogeneous architectural languages can be compared to mirthful polyphony in music. In particular, the main staircase signifies a poetic embodiment of it (Cover Figure of Chapter 2, p. 12. and Fig. 5-54). The vertical poles standing randomly without an artificial rhythm and cheerful beams of light between the poles are reminiscent of different sized organ pipes that echo individual sounds but not out of order (Fig. 5-56).

To understand one building, it is essential to investigate the architect’s description about it. This is true of the Villa Mairea. From Aalto’s ‘Mairea’ article in [Arkkitehti] (1939), we can understand that his main concern in the design is to create a space to combine art with life for the art collector client, Maire Gullichsen. His solution was to put flexible partition walls in the living room – rather than to design a separate art gallery as in the ‘Proto-Mairea’. He thought that the flexible partition wall could be used as an art display wall and as an art storage cabinet at the same time, so that the clients could change the display of pictures depending on their

taste, and the partitions could be positioned as the exhibition space demands (Figure in p. 176 and Fig. 5-37). I strongly argue that this concept originated from Japanese *tokonoma* and that it is the most important but unknown motif of the design. In his Yale University lecture (1939), Aalto admitted the Japanese influence: 'We know that the Japanese home never displays many pictures at one time, but they change the pictures from week to week and from month to month.'<sup>244</sup> He must have got this idea at least from the book by Yoshida, [Das Japanische Wohnhaus] (1935) that he consulted for the design.<sup>245</sup> However, it does not mean that he imitated the form of the *tokonoma* (Fig. 5-102). But he adopted the art display concept that the picture should be displayed following the season or mood and stored when not displayed. At this point again, I can raise Aalto's attempt to reconcile opposites, between the East and the West. Though the flexibility of the walls was problematic<sup>246</sup> and they were permanently fixed a few years later after completion, the art display concept was retained in the Villa Mairea and was applied to later projects like Maison Carré (1956-61) (Fig. 5-42).

An experimental value might lie in re-application of the experimented concept to later projects, as the *tokonoma* concept was applied again. There are many elements of architectural vocabulary that Aalto elaborated through the Villa Mairea project and kept using. One of the most conspicuous is the undulating wall of the studio in the house. Although it disappeared in the final Mairea, it appeared successfully again in the Finnish Pavilion for the World's Fair in New York, 1939 (Fig. 5-23) and also in other designs like the Essen Opera House (1959) (Fig. 5-24) and the Alvar Aalto Museum (1971-73) (Fig. 3-23). Another experimental theme that was distinctively recognised in later projects is the design of columns. Whoever wanders about the Villa Mairea interior will be surprised at the glamorous fashion show of columns (Fig. 5-64). In later works, we can see other types of cladding on columns, such as tiles, marble slats and marble planks (Fig. 5-72 and 73). Besides these, there are so many other ideas experimented with in the Villa Mairea and applied to later designs that it is hard to

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<sup>244</sup> See 'Chapter 5.2.2. Space to Combine Art with Life', p. 226.

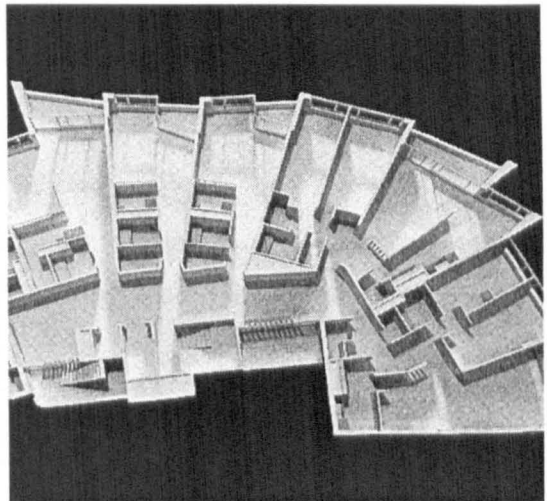
<sup>245</sup> Concerning *tokonoma*, see *Ibid.* p. 227.

<sup>246</sup> The partition walls were more difficult to move than originally thought. See p. 94.

enumerate all one by one. But to cite a few examples, the enclosed courtyard, interior level change, interior landscape, city crown concept, forest space, organic curve, fusion of vernacularity and modernity, sculpture-like fireplace and concern for topography and natural light are all recurrent themes in Aalto's work.

Beyond the specific architectural languages, however, Aalto tried to create a synthetic architectural entity through the project that is best fit for the clients' 'individual life style, instinct, and conception of culture'. And he did not want this to remain merely at the level of luxurious one-family house design, but intended to spread the experimental spirit to ordinary people's houses. He argued that the solution for the large house must be fit for mass-produced apartments and even for a single room. I maintain that this is another significant point in reading the Villa Mairea. A luxurious house itself cannot appeal to modern society. It should provide some instruction for commoners, too. Although this idea might be regarded as Aalto's justification for receiving the bourgeois commission against his early social convictions, it could also become a motive to make him struggle to design better living environments in mass-produced housing. We might ask: how were his mass housing designs before and after the Villa Mairea project influenced by this concept? This question leads me on to research Aalto's collective housing in the next chapter, as I believe that this must be an essential complement to the work on the Villa Mairea.

**Chapter 6.**  
**New Individualism in Existenz-Maximum:**  
**Aalto's Collective Housing**



*In modern society it is at least theoretically possible for the father to be a mason, the mother a university professor, the daughter a film star, and the son something even worse. Obviously these people have their special demands to be allowed to think and work undisturbed. The modern home must be built to meet these demands.*  
Alvar Aalto, 1930 (Schildt, 1997, p. 83)

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## Chapter 6.

### New Individualism in Existenz-Maximum : Alvar Aalto's Collective Housing

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All the same, an architectural assignment based on an individual lifestyle, instinct, and conception of culture can have far-reaching social significance in the long run. It points the way to a new *individualism* [author's emphasis]; what with the continuing development of production machinery and improved forms of organization, this will make a more flexible consideration of individual needs possible, even in places where the semi-developed machinery of our primitive mass production leaves its mark on housing today (Aalto, 1939).<sup>1</sup>

According to Paul Bernoulli, Aalto's assistant architect on the Villa Mairea, when Aalto was commissioned to design it his Leftist friends criticised him.<sup>2</sup> Although Aalto argued that the project could have 'far-reaching social significance', the bourgeois commission seemed to contradict Aalto's former social conviction. Thus, some writers have regarded the architects' and the clients' claim about the 'experiment' as 'an ethically acceptable rationalization'.<sup>3</sup> It is a persuasive comment, and I agree to some extent. Nevertheless, I do not think that we can deny all of their experimental spirit and all that Aalto had exploited in the Villa Mairea project. Indeed, the various attempts in the house that can be called 'experiments' made Aalto develop his design ideas abundantly. No matter how luxurious the house may be, it has many application points that ordinary people's houses can follow. Because the architect was endowed with a free hand in the rich clients' house design, 'things can be done that would be

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<sup>1</sup> Aalto, A. (1939b) 'Mairea', *Arkkitehti*, no. 9. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, p. 229.

<sup>2</sup> Pallasmaa, J. (1998) 'Image and Meaning'. In Pallasmaa, J. (ed.) (1998) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, p. 70.

<sup>3</sup> *Ibid.*

impossible with ... mass production, and those experiments can spread further and eventually become available to one and all as production methods advance',<sup>4</sup> and the 'solution fits ... not only this large house ... but ... [it] must provide for the general use ... even in a very limited space, in a small house or apartment, even in a single room',<sup>5</sup> using Aalto's own words. Even if his argument was just an excuse, it could provide him with an initiative to consider each unit of mass housing more deeply.

In this section, I will depict how Aalto's housing design attitude had changed from his early years to the mature period. And I argue that his housing schemes since the late 1930s gained what he called 'new individualism' in the 'Mairea' text. Through 'a more flexible consideration of individual needs', mass-produced apartments in collective housing blocks could reflect 'an individual lifestyle' as in a private house. We cannot say that the Mairea project directly influenced all his collective housing designs, but we probably can say that his flexible consideration of individual needs in the Mairea continued in other housing designs. This other facet of the new individualism corresponds to *Existenz-maximum*, contrasting with *Existenz-minimum*. If the latter cannot but force inhabitants to comply with the given uniformity under the ideal of homotopia, the former throws off the univalent shackles of conventional mass-produced housing, valuing more individuality and spatial variation. Before describing Aalto's housing projects in chronological order (Chapter 6.2.), however, I am going to research first his socialist conviction around 1930 (Chapter 6.1.), which will make his later attitude – New Individualism in Existenz-Maximum – more remarkable. And in the last part of this section (Chapter, 6.3.), I will also illuminate an interesting similarity between Aalto's and Scharoun's ideas. Additionally, I will attach as an appendix to this thesis my description about mass housing projects in modern architecture, which could be characterised as *machine à habiter* and *Existenzminimum*. Aalto's housing projects might be compared with them and his works could be considered an alternative to the monotonous rationalist housing blocks.

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<sup>4</sup> Aalto, A. (1939b) *op. cit.*

<sup>5</sup> Aalto, A. (1939a) 'The Home of a Rich Collector', Yale University Lecture on May 9, 1939. Republished in Schildt, G. (ed.) (1997) *op. cit.* p. 226.



## 6.1. Alvar Aalto and Social Conviction around 1930

As mentioned already, Aalto had a socialist conviction around 1930, which led to criticism over the luxurious Maireia project. By investigating his former belief and activities, we can rethink about the Villa Maireia design on the one hand, and highlight the new individualism of his later collective housing projects on the other. Around 1930, Aalto was in intimate contact with ‘members of Marxist organizations’ such as André Lurçat, Ernst May, Walter Gropius, Sven Markelius, Uno Åhrén, and the like.<sup>6</sup> André Lurçat (1894-1970), a French architect, was also a founding member of the CIAM and actively involved in urban planning for the Soviet Union in the early 1930s like Ernst May (1886-1970) who was the leader in developing *das neue Frankfurt* and the concept of the *Existenzminimum*.<sup>7</sup> When Lurçat visited Finland in 1934, Aalto commented on him as an old friend and as ‘one of the few who never stray into formalism’.<sup>8</sup> And, Aalto was in close contact between 1927 and mid 1930s with the Swedish architect and town planner, Sven Markelius (1889-1972). He was one of the main sources through which Aalto could receive the influence of international radicals. It was also Markelius who accompanied Aalto to the Frankfurt CIAM. Aalto seems to have been enthusiastic about socialism especially in those days. The article ‘Hyvä asunto’ (A Good Home) in an ‘ultra-leftist’ journal [Soihtu] (Torch) in 1932 shows clearly his socialist belief, where he foresaw ‘a planned economy in the production of utility housing and the simultaneous production of its collective complements, under a management working scientifically, as if in a laboratory.’<sup>9</sup> His first participation in the 2<sup>nd</sup> CIAM in Frankfurt, 1929 strongly influenced his inclination to it without doubt, as the theme itself, *Die Wohnung für das Existenzminimum* for people with low-income implied social concerns. Moreover, it enabled Aalto to encounter many socialist friends. Particularly, the close friendship with Walter Gropius made him visit Berlin in 1930 and 1931, where he saw many *Siedlung*

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<sup>6</sup> Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, p. 76.

<sup>7</sup> Concerning this, see ‘Appendix # 1. Mass Housing Projects in Modern Architecture’.

<sup>8</sup> Anon (1934) ‘Instead of an Interview. André Lurçat in Finland’, *Tekniikan ylioppilas*, no. 2. Republished in Schildt, G. (ed.) (1997) *op. cit.* p. 84.

<sup>9</sup> Aalto, A. (1932) ‘Hyvä asunto’, *Soihtu*. Republished in Schildt, G. (ed.) (1997) *op. cit.* p. 76.

projects.<sup>10</sup> At that time, large-scaled Siedlung Britz 'Hufeisen' (1925-31), Siedlung Onkel-Toms-Hütte (1926-31) and Siedlung Siemensstadt (1929-32) were ongoing in Berlin, and Gropius was involved in the latter project.<sup>11</sup>

The Stockholm Exhibition in 1930 and the Helsinki Minimum Apartment Exhibition in the same year showed the influence of contemporary continental modernism on the Scandinavian countries. Several articles by Aalto<sup>12</sup> illustrate well his concerns over the housing problem at that moment. As we can see in the title of 'the Stockholm Exhibition of Modern Industrial and Decorative Arts' and its theme of 'Housing, Transportation, Furnishing', the Stockholm event anticipated a new modern society and assumed 'mass production'.<sup>13</sup> And it became a watershed of the spread of *funkis* – a term used for functionalism in Sweden – in Scandinavian countries.<sup>14</sup> This exhibition was directed by Gregor Paulsson and organised by Gunnar Asplund. Thanks to Aalto's close relationship with Asplund and other participant architects, although Aalto was not officially involved in it, he was not a stranger at all because he 'had closely followed the work of the exhibition management, from the drawing of the very first guidelines to the final result.'<sup>15</sup> Besides many exhibition buildings, restaurants and amusement facilities, there was a housing exhibition, which was the most important theme in the event. If compared with the Frankfurt's minimum dwellings for low incomers, the Stockholm houses were less extremely minimal and rather spacious for 'a comfortable lower

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<sup>10</sup> Schildt, G. (1986) *op. cit.* p. 62. Particularly, Markelius's wife Viola remarked, 'In Germany we [Markelius and Aalto] studied those famous Siedlungen'. Schildt, G. (1986) *op. cit.* p. 52.

<sup>11</sup> Fraser, D. (1996) *The Buildings of Europe: Berlin*, Manchester University Press.

<sup>12</sup> Aalto, A. (1930a) 'The Stockholm Exhibition 1930' (summary of an interview), *Åbo Underrättelser*, 22 May 1930, and (1930b) 'The Stockholm Exhibition 1930', *Arkkitehti*, no. 8. Republished in Schildt, G. (ed.) (1997) *op. cit.*

<sup>13</sup> Wernher, H. (1930) 'Progress. The Swedish Contribution', *Architectural Review*, August 1930, vol. 68, p. 52. Wrede, S. (1980) *The Architect of Erik Gunnar Asplund*, MIT Press, Cambridge, MA, p. 127.

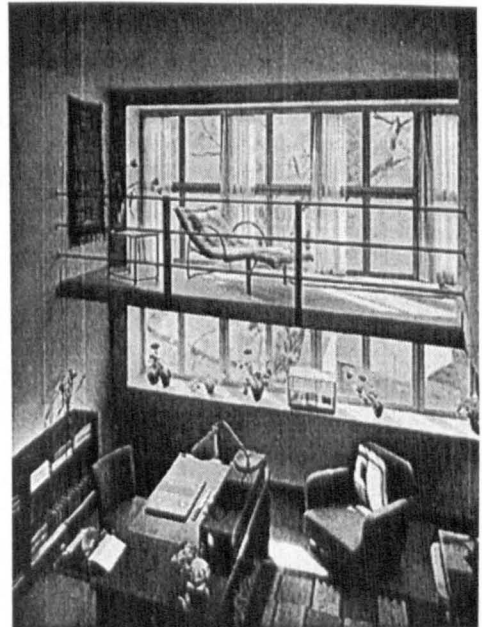
<sup>14</sup> More than functionalism, Frampton emphasises Russian Constructivists' influence on the exhibition. Frampton, K. (1985) 'Stockholm 1930: Asplund and the legacy of funkis'. In Caldenby, C. and Hultin, O. (ed.) (1986) *Asplund*, Rizzoli, New York. Concerning the Stockholm Exhibition, see Robertson, H. and Yerbury, F. R. (1930) 'The Stockholm Exhibition 1930', *Architects & Building News*, 27 June and 4 and 11 July 1930. Wernher, H. (1930) *op. cit.* Shand, M. (1930) 'Stockholm, 1930', *Architectural Review*, August 1930, vol. 68, pp. 53-95. Wrede, S. (1980) *op. cit.*

<sup>15</sup> Aalto, A. (1930a) *op. cit.* pp. 71-73.

[Fig. 6-1] Aerial view of Stockholm Exhibition site, 1930



[Fig. 6-2] Living rooms designed by Markelius (left) and Chambert (right)



middle-class home'.<sup>16</sup> Faced with the housing exhibition, Aalto could not escape the concept of minimal dwelling and suggested his opinion. From his viewpoint, the exhibition did not show much serious concern about common facilities for many small dwelling units, but he regarded 'the existence of the problem' itself as meaningful. In addition, he raised 'studio solutions' of the houses as 'the strength' of the exhibition and 'heterogeneity' as 'the weakness'. And he praised the works of Markelius and Åhrén as 'balanced radicalism':

The minimum apartment is not an individual product like the country manor of the past. It is inevitably a pendant of large-scale collective architecture. The smaller the home is, the more everyday activities must be transferred to joint-access areas. The exhibition explores this problem in perhaps less detail than others. But ... the existence of the problem is expressed clearly enough. The Stockholm Exhibition is *the first in the world to deliberately pose this question*. ... The strength of the housing exhibition is its success in providing a series of studio solutions to exact scientific analyses of the housing question. ... The weakness of the housing exhibition is its heterogeneity, as healthy radicalism has either been partly shut out or has taken a form that is radical in the wrong (artistic) sense. ... For there is a great deal of balanced radicalism there – in the housing exhibition, mainly in the works of Markelius and Åhrén, but in others, too.<sup>17</sup>

In late November 1930, Aalto organised the Minimum Apartment Exhibition at the Helsinki Art Hall. The exhibition comprised an apartment interior (one living room, one kitchen and two bedrooms) and its furnishings designed by Aaltos, a living room by Erik Bryggman and a hotel room by Pauli and Märta Blomstedt.<sup>18</sup> Although it was rather a small event and related more to the interior design and furniture than to a collective housing block, the theme 'Minimum Apartment' was directly borrowed from the Frankfurt CIAM of one year earlier. As his corresponding article 'The Housing Problem'<sup>19</sup> published in [Domus] (1930) clarifies,

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<sup>16</sup> Frampton, K. (1985) *op. cit.* p. 38.

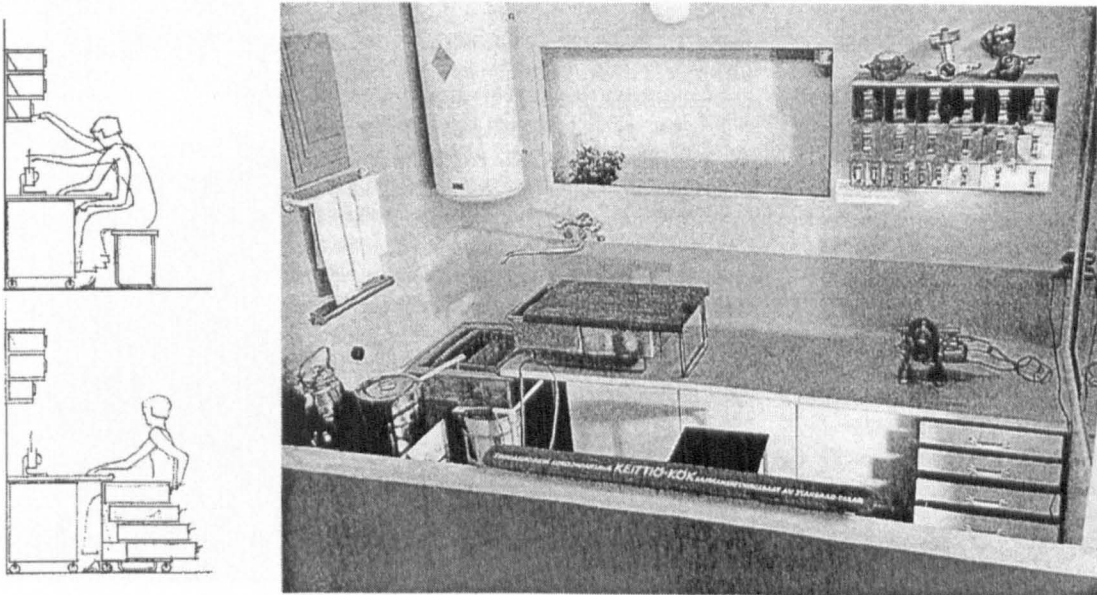
<sup>17</sup> Aalto, A. (1930b) *op. cit.* pp. 74-76.

<sup>18</sup> Schildt, G. (1986) *op. cit.* p. 68.

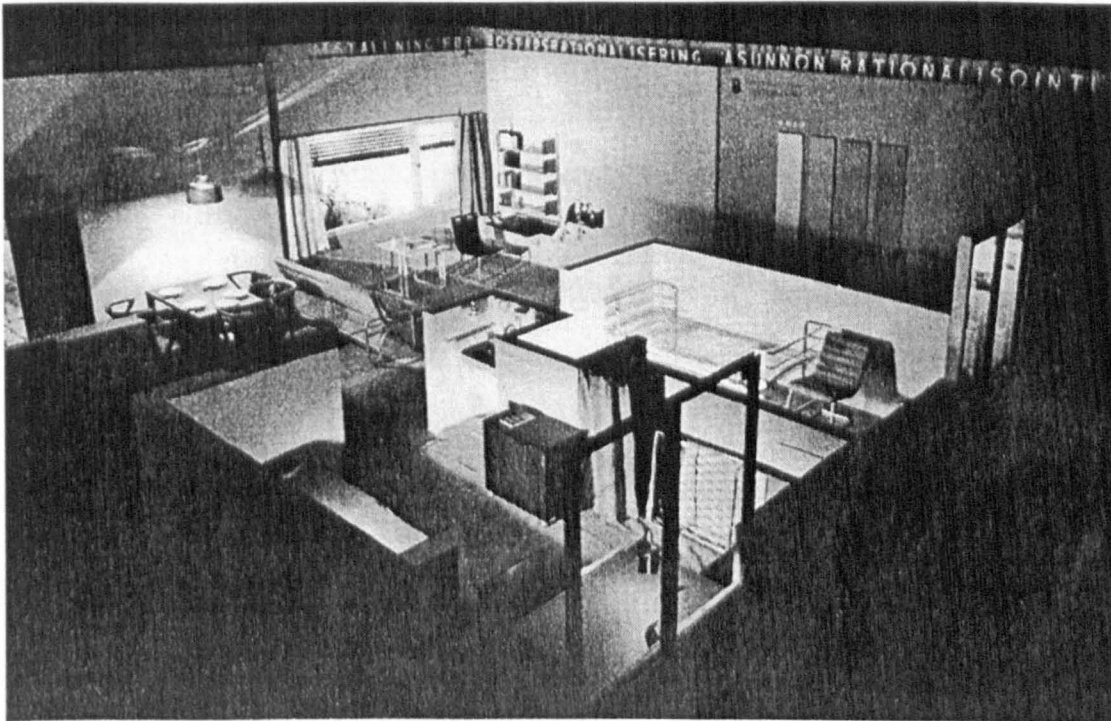
<sup>19</sup> Aalto, A. (1930c) 'The Housing Problem', *Domus*, no. 8-10. Republished in Schildt, G. (ed.) (1997) *op. cit.* pp. 76-84.

Aalto made the most of a small space by utilising flexible or in his words ‘easy moving and reassembling’ furniture. The typical example is the flexible sofa convertible to a bed, which was located between the living room and the dining room – the two spaces were divided not by a wall but by the sofa. It could be paralleled with Frankfurt’s folding bed in a living room. One of the important characteristics in a modern home that Aalto pointed out in the article is ‘the transformation of the status of women’ from ‘a patriarchal way of life’: ‘The new independence of women gives rise to entirely new requirements in work amenities, ease of cleaning, and the weight and mechanical viability of objects within the home.’ This naturally led the Aaltos to seek a new solution for women’s working space in the kitchen, and Aino designed a kitchen with a minimum space, which also alludes to Schuette-Lihotzky’s *Frankfurter Küche*. In the Aalto kitchen, housewives could work sitting on a chair. As a whole, however, Aalto’s ‘minimum’ looks more spacious, as in Stockholm, than those exhibited in Frankfurt exhibition, in that he regarded 60 square metres as a minimum size while Frankfurt’s minimum started from 20s square metres. And the overall furnishing in Aaltos’ apartment appeared to be of better quality than in May’s, which was perhaps due to the fact that Aalto concentrated on only one apartment for the exhibition whereas May really put into

[Fig. 6-3] Minimum apartment exhibition in Helsinki, 1930: kitchen drawing and photo



[Fig. 6-4] Minimum apartment exhibition in Helsinki, 1930: living room and dining room divided by a convertible sofa-bed (top) and a whole view of the apartment (bottom)





practice the 15,000 apartments for low incomers. Nevertheless, this exhibition was a serious experiment for Aalto, and his article, 'The Housing Problem', clearly shows his attitude towards the minimum dwelling and its social concerns.

In studying the human home, the only standards we can establish are minimum standards, and they must be found among the extreme cases, i.e. in homes that have been built for the minimum subsistence level. A luxury villa or large apartment cannot contain any problems, whereas every element of the minimum apartment constitutes a problem. ... Only thus can we find the scientific requirements for the standard home in a class-free society, which common sense says must be kept fairly close to the minimum, taken in a healthy sense.<sup>20</sup>

Considering Aalto's emphasis on 'minimum standards' and 'a class-free society' in this article, his Mairea project is very antinomic and he might deserve criticism. Nevertheless, the commission was not 'morally' incompatible, Aalto asserted in 1950, because it could be justified 'as a testing ground and a laboratory'.<sup>21</sup> Moreover, we should not forget the different situations between around 1930 – when Aalto's social concerns most strongly showed – and the late 1930s – when he designed the Villa Mairea. During the former period, Aalto had just stepped into the international radical circles and been able to absorb international rationalist moods easily, but as time went on, he came to understand their petrified aspects and pursued instead more contextual matters, organic solutions and psychological effects. Beyond an armchair argument about his housing designs and theory, however, we had better investigate real projects. The overall study on Aalto's collective housing projects will suggest how his social concerns had changed and can reveal how his minimum apartment block around 1930 was transformed into a unique housing block that has diversified spaces in each unit. After all, it could also offer us a further revelation – a good index of Aalto's shifting ideals in architecture.

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<sup>20</sup> *Ibid.*

<sup>21</sup> 'Luxury housing is probably morally right if you use it as a testing ground and a laboratory.' Aalto, A. (1950) 'Finland Wonderland', AA lecture in London, June 20, 1950. Republished in Schildt, G. (ed.) (1997) *op. cit.* pp. 184-190.

## 6.2. Alvar Aalto in Collective Housing

Aalto's collective housing projects can be divided into four, based on the period and his design tendency. The first period between 1923 and 1927 shows Aalto's Neo-classical or Nordic Classical manner, when he had not yet encountered international modernism. The second period is between 1927 and 1935, when he was baptised by international modernism. It includes his socialist days and reflects the influence of *Existenzminimum* and *Die neue Sachlichkeit* in the continent. Since late 1930s, however, he started emphasising the uniqueness and identity of each apartment in its spatial concept and form, and we can perceive the embryonic type in the engineers' row houses at Sunila (1936-37). This transitional time between 1936 and 1940 is the third period. Finally, in the mature period of the post-war era, Aalto freely expressed his own architectural language in housing designs, when monotonous housing blocks rapidly spread all over the world. Neue Vahr apartment block (1958-62) in Bremen or 'Schönbühl' apartment in Luzern (1965-68) are typical examples of this last period. Interestingly, they show a close affinity with housing designs of Hans Scharoun (1893-1972), such as 'Romeo and Juliet' (1954-59) or 'Salute' (1961-63) in Stuttgart.

In contrast with *Existenzminimum*, I have already defined the quality of Aalto's later housing block as *Existenzmaximum*, which expresses the new individualism. I maintain that his housing designs of the third and fourth period assume these characteristics. It was possible through designing each unit uniquely in spatial concept, morphology, orientation, etc. to give it private-home like identity. Rather than subordinating each unit to a structural bay system, the new individualism lets structure serve the inner spaces. Additionally, in one floor of a block, Aalto tried to design as many types of unit as possible, and in one unit, he differentiated every corner. Although bending a block entails enlargement of its surface area and may increase the construction cost, it gives each unit more contact with nature – sunshine and air – and inhabitants can get more extensive and diversified views from the inside. Thus, they could experience maximum spatial quality even within the mass-produced collective housing.

### 6.2.1. Early Projects in Neo-Classical Mode: 1923 ~ 1927

Aalto's early housing projects in Jyväskylä period between 1923 and 1927 assumed a Neo-classical approach both in plan and appearance as in other designs. The most representative work at that time is a railway officials' apartment block, which is usually called 'Aira Building'.<sup>97</sup> He got the commission for the building in late spring of 1924 and designed it that autumn, completing it in 1926.<sup>98</sup> It is a three-storey building plus a basement floor, and has eighteen flats altogether, six in each floor, accessed from three staircases. The whole composition of flats and staircases in the block plan is almost the same as that of typical rationalist apartment blocks. If entering a flat from a staircase, one comes to face a small hall, from which all spaces – two rooms, a kitchen, and a bathroom – could be reached. The most salient feature in the plan is that the interior wall of the garden side room has a thick load-bearing wall while the street side rooms – a bedroom, a kitchen and a bathroom – have thin light walls. And some spaces form a wedge shape that became Aalto's typical vocabulary – the corridor between two bedrooms, the space between two wall-closets before a window in a kitchen, and the exit from a kitchen to a staircase. The flats have a conventional heating system of fireplaces, which entailed various chimneys on the pitched roof. The façades seem quite rigid with regular window arrays on a white plastered brick wall – the plaster does not attempt to conceal the uneven brickwork. As Schildt (1984) commented, it 'prefigures Aalto's Rationalist apartment blocks',<sup>99</sup> but it still has classical gestures. Most of all, the three rows of windows in the street façade and the eaves allude to a stripped-down and simplified tripartite renaissance palazzo façade, and the circular windows in the garden façade remind me of those of renaissance churches. And many arch-shaped treatments in basement windows, staircase doors, and vent boards on walls evoke a classical impression. In addition, various decorative

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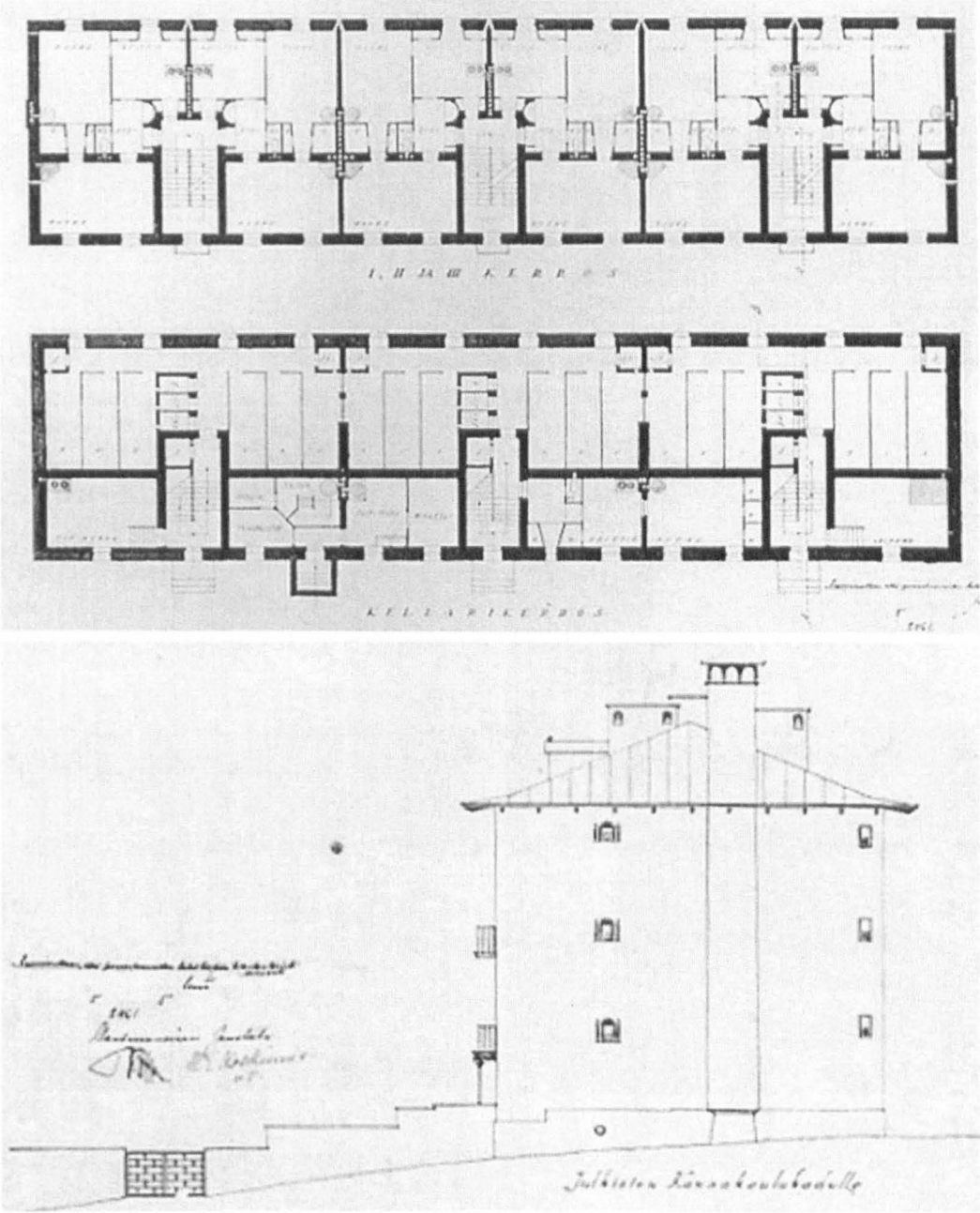
<sup>97</sup> Concerning the descriptions about the 'Aira Building', see Pearson, P. D. (1978) *Alvar Aalto and the International Style*, Whitney Library of Design, New York, Schildt, G. (1984) *Alvar Aalto: The Early Years*, Rizzoli, New York, and (1994b) *Alvar Aalto: A Life's Work – Architecture, Design and Art*, Otava, Helsinki.

<sup>98</sup> Schildt, G. (1984) *op. cit.* p. 130 and 273, and (1994) *op. cit.* p. 207.

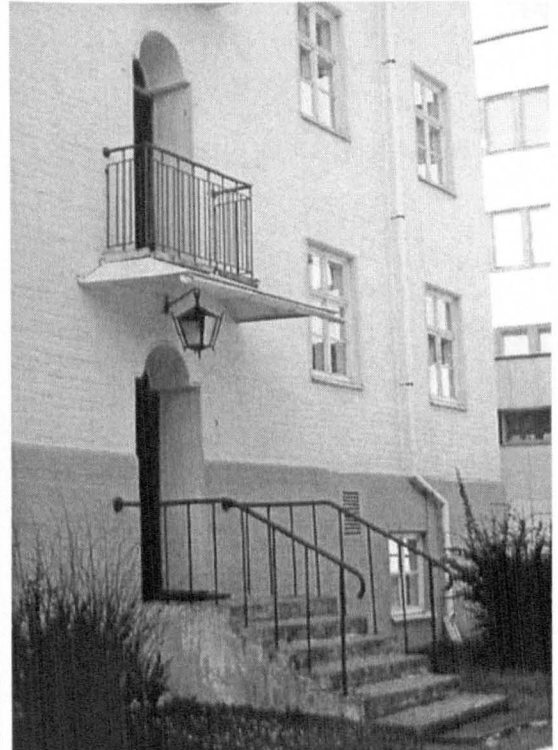
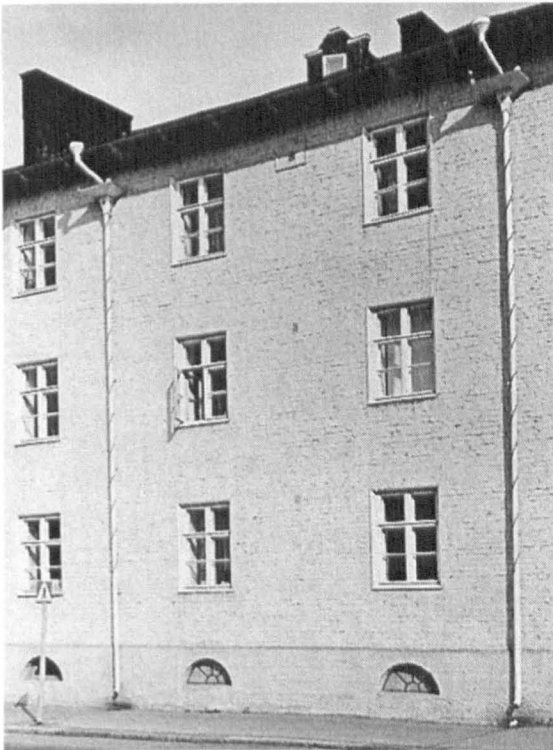
<sup>99</sup> Schildt, G. (1984) *op. cit.* p. 273.

finishes on the outside show Aalto's early romantic style. They are, for example, the spiralling red strip in the downspouts, metal ornaments of them, polychromatic colour scheme on the eaves, corbelled brickwork in a stack, dormer windows on the roof, and beautifully designed lamp under each entrance canopy.

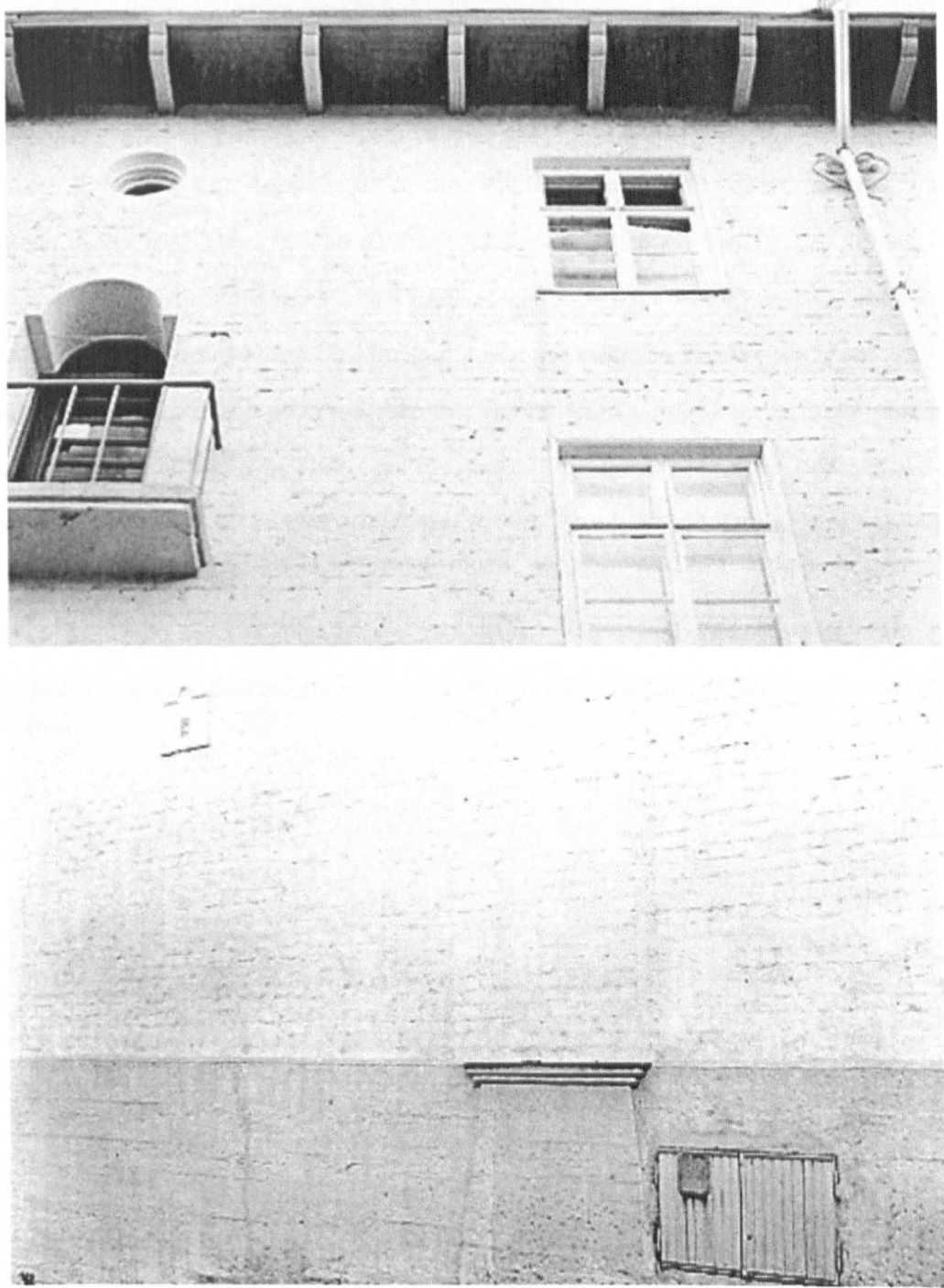
[Fig. 6-5] Aira Building in Jyväskylä, 1924-26: typical and basement plans (top) and elevation (bottom)



[Fig. 6-6] Aira Building in Jyväskylä, 1924-26: street side façade (top), street side detail (bottom left) and garden side entrance detail (bottom right)



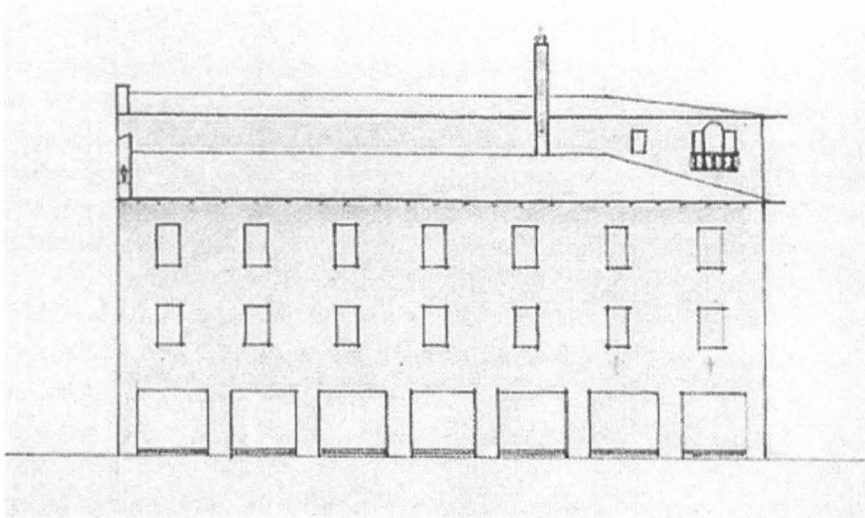
[Fig. 6-7] Aira Building in Jyväskylä, 1924-26: garden side upper part detail (top), end wall detail (bottom)





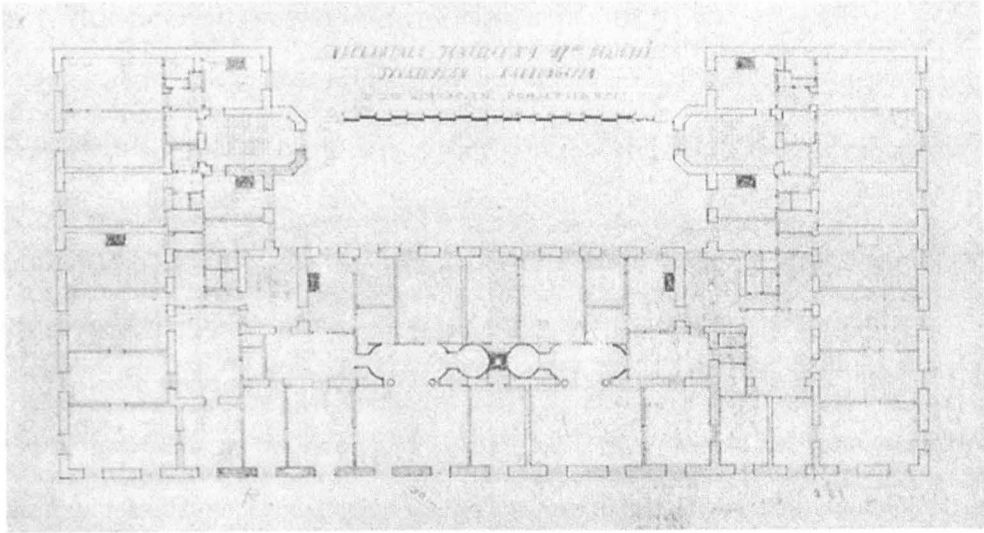
This kind of classical or traditional style was more revealed in an apartment block design on a site called ‘Mandelin’ in Jyväskylä, which was projected around 1925. This building has shops on the ground floor and a cinema on the basement while various flats occupy the upper floors. The plan is U-shaped and exactly symmetrical about the vertical axis. Noticeably, the staircases that protrudes to the courtyard on each side have folded corners, and round-shaped halls are located at the centre of the block. And, the plan tells that there are two circular columns in the hall. This classical treatment continues in the elevations. The ground floor level has a loggia, the third floor corner has a renaissance style balcony, and the chimney on the roof alludes to a campanile.<sup>100</sup> Although it was not executed because the client wanted a cheaper solution,<sup>101</sup> it is a good example that shows Aalto’s early concept of an apartment block. However, his move to Turku, the old capital city of Finland, in the summer of 1927, allowed Aalto to make contact more easily with Swedish and international architects, exposing him to continental influence.

**[Fig. 6-8] Mandelin apartment project in Jyväskylä, around 1925: elevation (top) and plan (bottom)**



<sup>100</sup> *Ibid.* p. 276.

<sup>101</sup> *Ibid.* p. 232.



## 6.2.2. Influence of International Modernism: 1927 ~ 1935

The best known of Aalto's designs in this period that show the typical influence of international modernism are the Turun Sanomat building (1928-29) and the Paimio Sanatorium (1928-32). No less than those, however, his housing or town planning projects illustrate them well, too. Perhaps, the best example is the standard apartment block in Turku, named 'Tapani Building' (1927-29). The block has shops on the ground floor and several different types of flats on the five upper floors – each floor has six flats and every two flats share one staircase. It was constructed using standard prefabricated concrete members, which were products of the client's company, the Tapani construction firm. Beams are 50 cm wide and lateral load-bearing wall units are one foot thick. They are all hollow for installation of pipes, air ducts, and electrical wiring.<sup>102</sup> The distinction of load-bearing walls and secondary walls made possible, firstly, a flexible arrangement of rooms and, secondly, a free façade at least in theory. It was the reason that Schildt (1986) found an affinity between the Tapani building and Mies's apartment block (1927) at the Weissenhof Siedlung and Corbusian principles.<sup>103</sup> When the building was completed, one flat was furnished and opened to the public for the Turku 700<sup>th</sup> anniversary exhibition. And one drawing of the flats was presented at the 3<sup>rd</sup> CIAM in the Brussels, 1930 with some other housing planning.<sup>104</sup> Now, Aalto was not just a recipient of an influence from the modern movement, but came to influence the international modernist group. Residential buildings for the Paimio Sanatorium also show the similar 'international' trend. They are a chief physician's house, a row house for assistant physicians, and an office staff housing block, all of which were designed between 1930 and 1932 and built in 1933. Among them, the office staff housing has an interesting flexibility in its bedroom. It is a two-storey building with four apartments downstairs and eight apartments upstairs. While the upper floor units are composed of one room and one small kitchen like a dormitory room, the ground level units have basically two bedrooms with one dining-cum-

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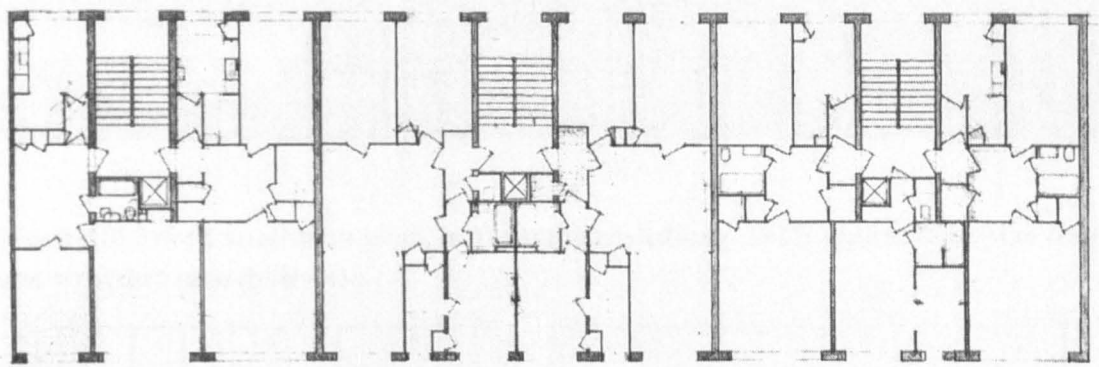
<sup>102</sup> *Ibid.* p. 291.

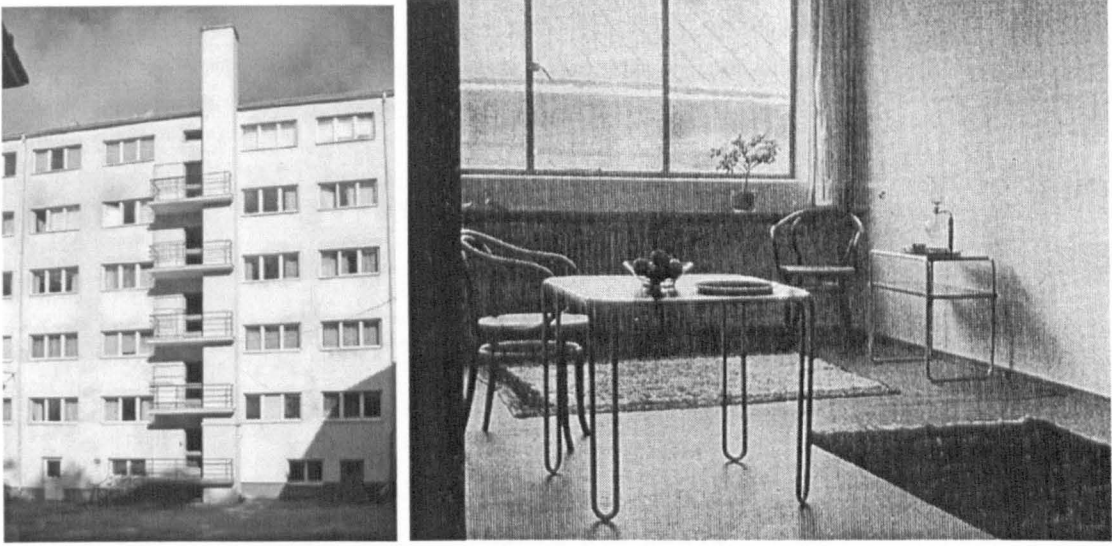
<sup>103</sup> Schildt, G. (1986) *op. cit.* p. 23.

<sup>104</sup> Pearson, P. D. (1978) *op. cit.* p. 104.

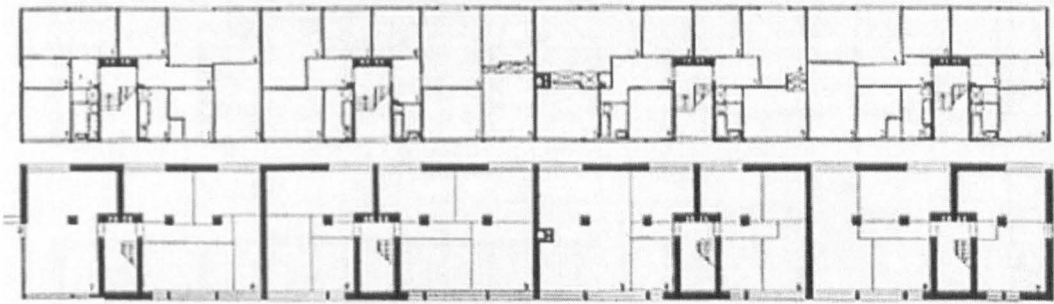
living room, one kitchen and one bathroom. According to the family size, however, the one bedroom could belong to the neighbouring unit. That is to say, the ground level apartment might have one bedroom, two bedrooms, or three bedrooms.

[Fig. 6-9] Tapani building in Turku, 1927-29: plan (top), street side façade (middle), garden side façade (bottom left) and furnished interior for exhibition (bottom right)

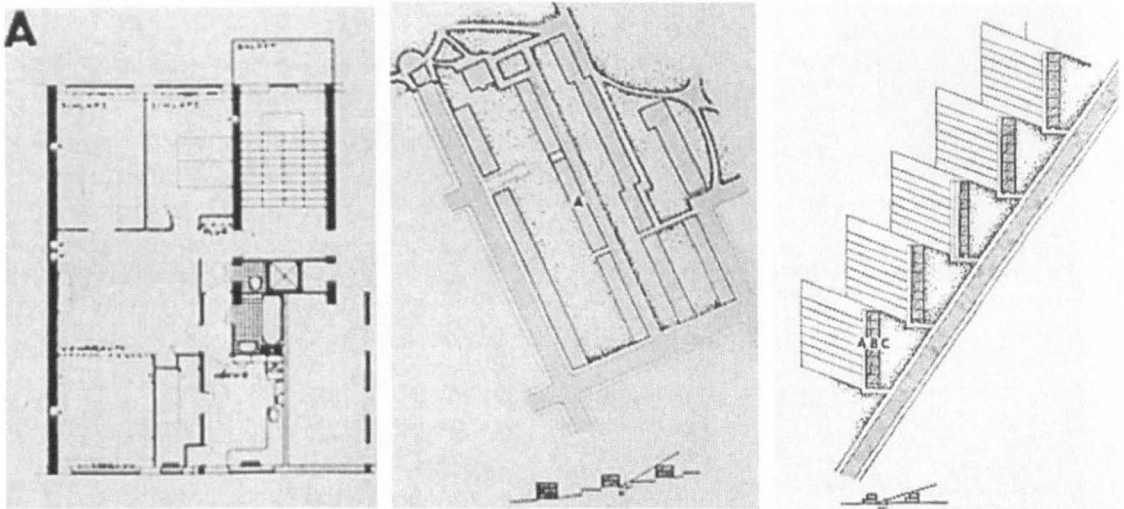




[Fig. 6-10] Mies's apartment block in Weissenhof Siedlung, 1927: typical floor plan (top) and structure plan (bottom)



[Fig. 6-11] Aalto's exhibition drawings for 3<sup>rd</sup> CIAM in Brussels, 1930: the left one is Tapani building







On the other hand, Aalto's unsuccessful competition entry for the Nedre Norrmalm district renovation in Stockholm (1933-34) revealed his town-scale planning concept. Here, he suggested demolishing old buildings but preserving the street network.<sup>105</sup> For the old building sites, he designed a series of 14-18 storey high-rise apartment blocks.<sup>106</sup> His emphasis on sunlight, air and view in each apartment, on greenery between the buildings, and on traffic clearly reflects Le Corbusier's city planning theory and Gropius's high-rise housing concept. Another noticeable town plan in this period is the design of Munkkiniemi residential district between 1934 and 1935. For that site, Aalto designed four 14-storey high-rise apartment blocks, with types varying from a tower block to a 200 metre long block. And the buildings were located forming a fan shape and included over 300 flats altogether. The slightly curved longest block alludes to Le Corbusier's sketch of 'Plan Obus' for Algier (1930) and Aalto's illustration of a balcony in a perspective drawing also suggests the Corbusian influence of a 'hanging garden'. This plan was exhibited in the Museum of Modern Art in New York in 1939 and praised as 'Art in Our Time'. And as Schildt (1986) pointed out, 'Aalto's orthodox Rationalism' culminated in this design.<sup>107</sup>

**[Fig. 6-13] Nedre Norrmalm district renovation project, 1933-34: elevation (top) and site plan (bottom)**



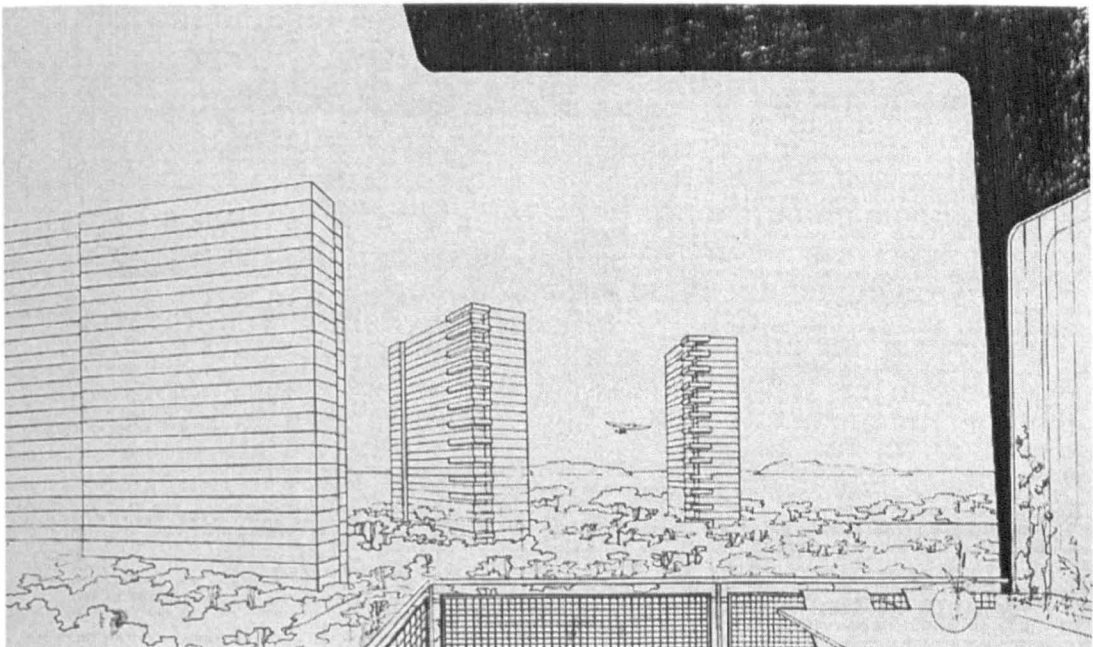
<sup>105</sup> Aalto's plan was relatively modest compared with Corbusier's. In his entry, Le Corbusier suggested demolishing all the urban structure wholesale except the most important old monumental buildings and constructing a series of new buildings 50 metres high. Schildt, G. (1986) *op. cit.* p. 254.

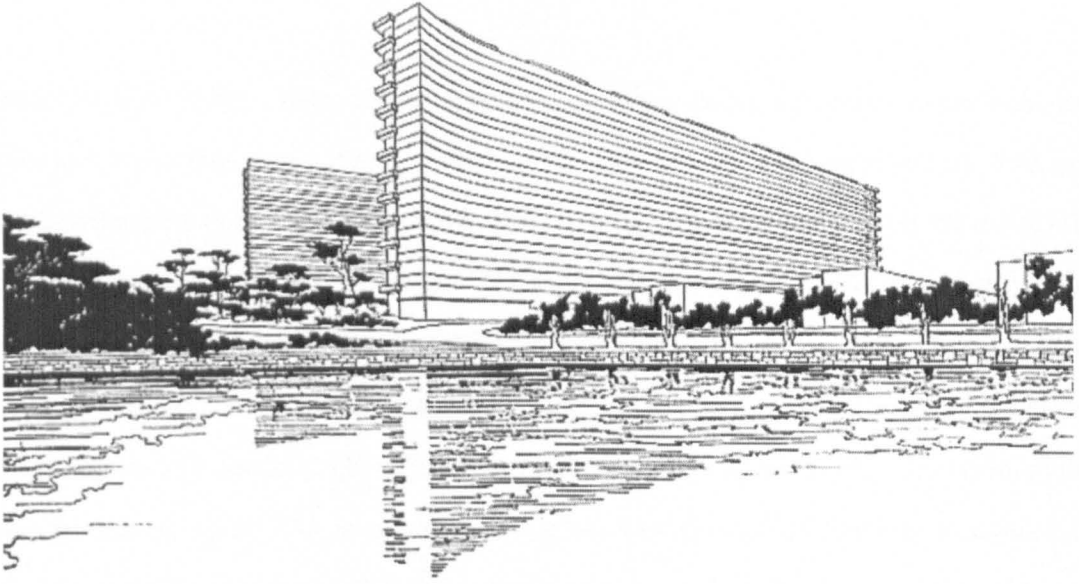
<sup>106</sup> *Ibid.*

<sup>107</sup> *Ibid.* p. 259.

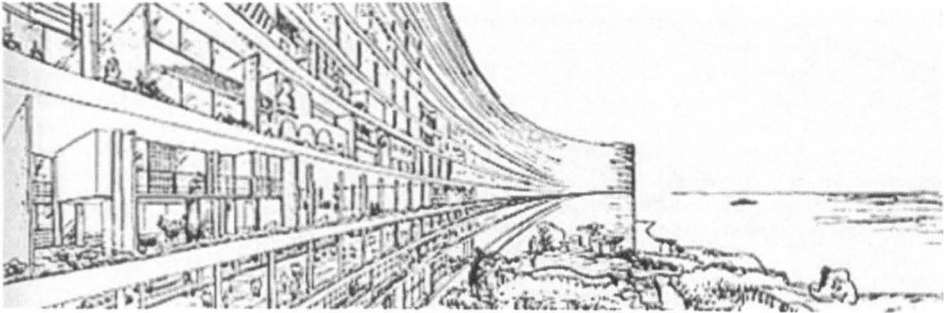


[Fig. 6-14] Munkkiniemi residential district design, 1934-35: view from a balcony of one block (top) and view from sea (bottom)





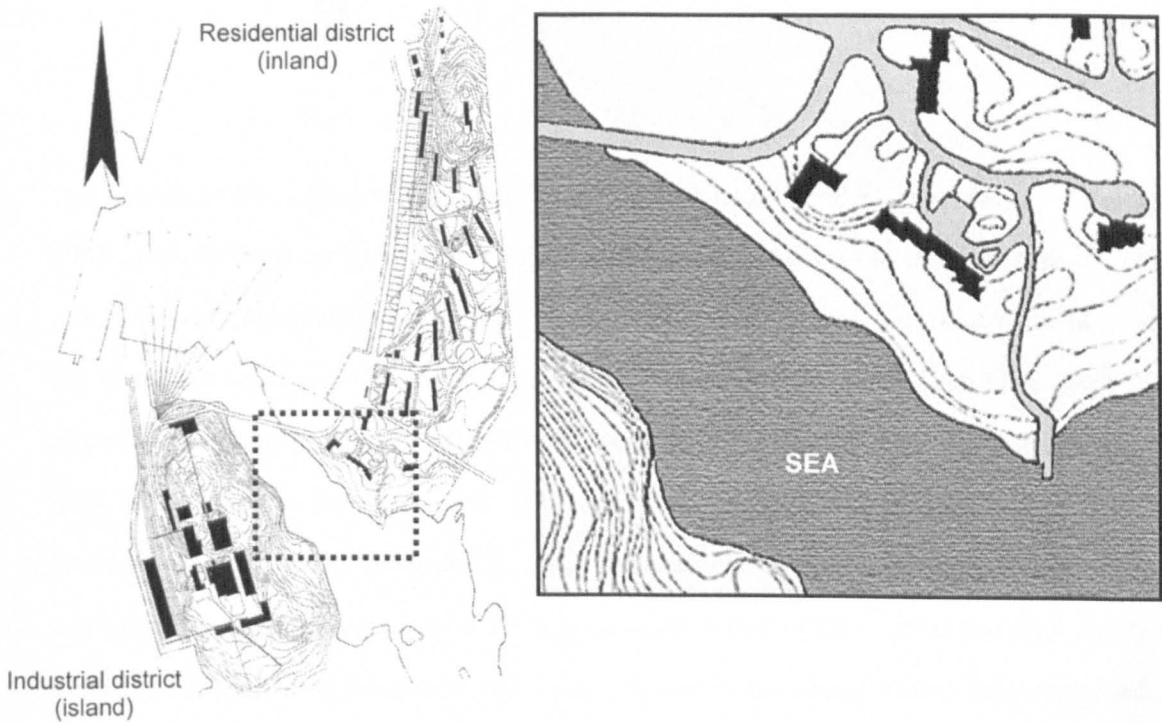
[Fig. 6-15] Le Corbusier's sketch of 'Plan Obus' for Algier, 1930



### 6.2.3. On the Way to New Individualism: 1936 ~1940

From the mid 1930s, Aalto started departing from the direct influence of the orthodox rationalist style. This does not mean that he completely got rid of the international trend, but that he attempted to fuse it with organic touches. In fact, the seed had already been latent in his most rationalistic period and before.<sup>108</sup> I argue that this trial happened manifestly in his own house design in Munkkiniemi (1934-36) and culminated in the Villa Mairea project (1937-39). Among many collective housing designs of the period, the row house for engineers in Sunila pulp mill district (1936-37) and the terrace houses in Kauttua (1937-39) achieved the most prominent result. The Sunila housing project was initiated in order to accommodate Sunila pulp mill employees. While the industrial area was located on an island, the housing district was placed in a forest on the mainland, and the two are connected by an embankment.

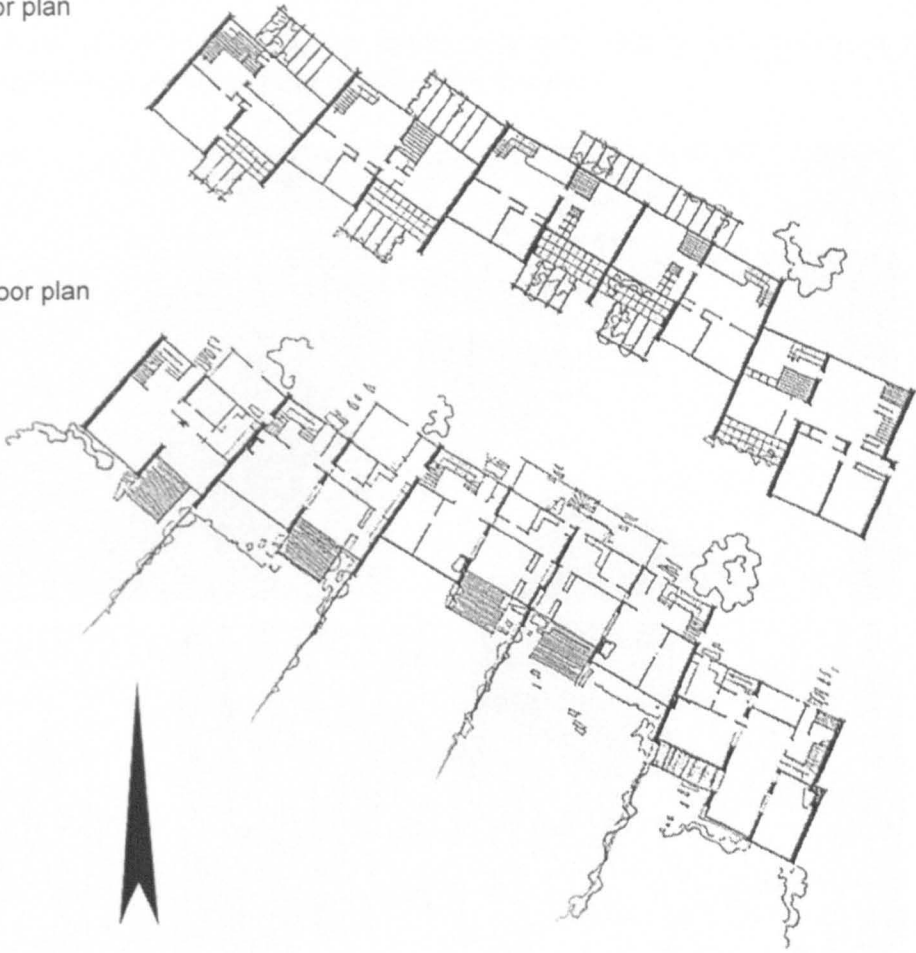
[Fig. 6-16] Sunila pulp mill and residential area site plan (top) and the engineer's row house plan, 1936-37 (bottom)



<sup>108</sup> For example, see the 'Aira' apartment, which contains skewed angles in several walls.

\* Upper floor plan

\* Ground floor plan



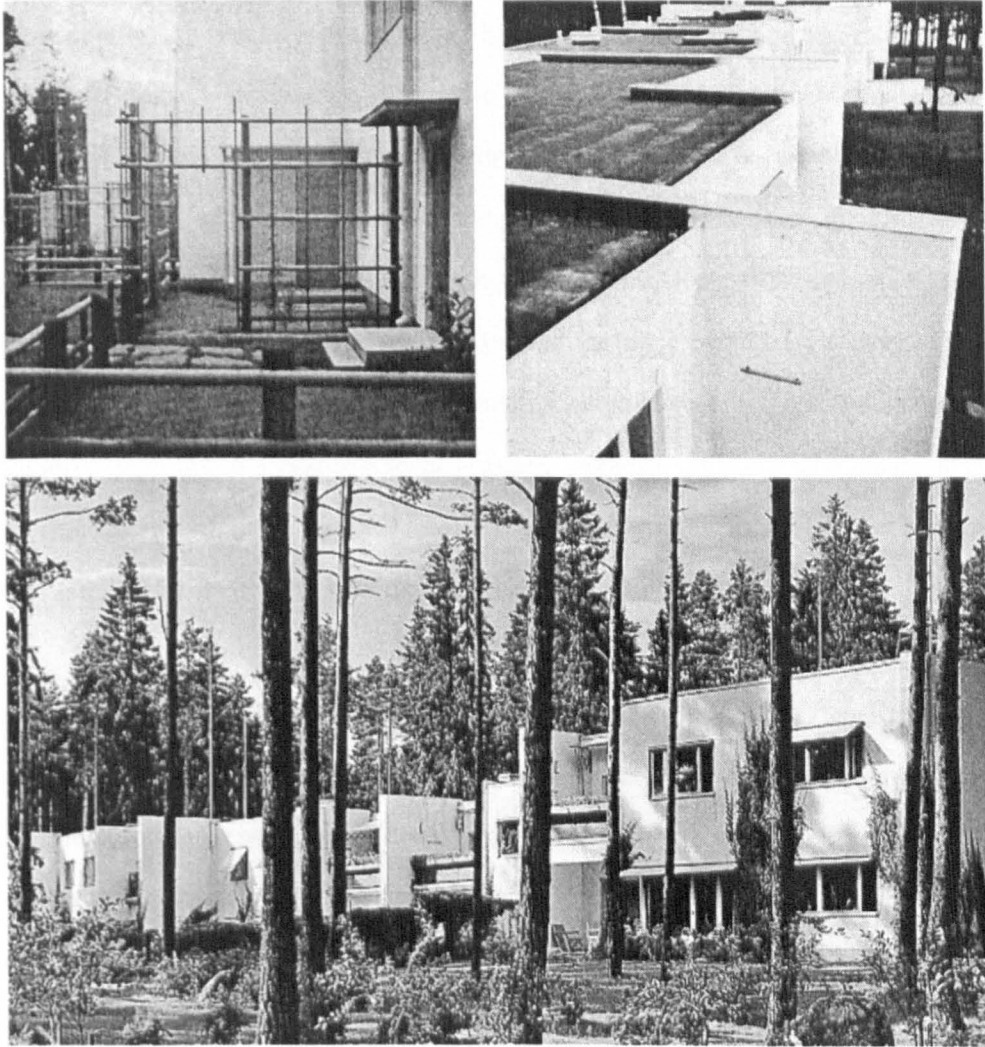
The residential district has various types of houses designed in several stages from 1937 up to 1950s, and the engineer's row house, labelled 'B building', belongs to the first stage.<sup>109</sup> The row house is located nearby the southern coast of the residential area. To consider the fact that the site is the nearest one from the island of the industrial area, Aalto must have given the engineers the priority of the location to other workers.<sup>110</sup> The block splays towards the water. That is to say, the access is from the inland (northeast) and the splayed garden side (southwest) slopes gently down to the coast. Even in this location and whole formation, we can perceive several advantages of the scheme. The access is easier from the road and the circulation is short. And the garden side is not bothered by the access. Orientating southwards,

<sup>109</sup> Schildt, G. (1986) *op. cit.* p. 266.

<sup>110</sup> The block type is also distinguished from others that are simply a linear shape.



[Fig. 6-17] View of the engineer's row house: entrance with pergola-wall (top left), staggered roofline (top right) and garden side view (bottom)



it could get maximum sunlight and a better view over the sea. These merits of the whole block are privatised in each unit. The block consists of five two-storey units, but each unit is more like a 'detached house'. This effect became possible through the units' stepped articulation. They were loosely linked together obliquely, which makes them not wholly attached, but partly 'detached'. Owing to the splaying of the block, each unit came not to orient to neighbouring units, and the action to secure privacy was enhanced by exterior walls dividing



each apartment's garden. And, each unit has its own pergola-wall in the entrance side, which distinguish more between public space and private space and between one unit and the others. What is more, all unit plans are different from each other except two symmetrically identical ones. Particularly, the east end unit is larger than the west end one, and has more rooms. On the other hand, because of the splaying gesture of the whole plan, the three middle units have one skewed party wall, which makes varying inner spaces. And the splayed inner spaces could follow the sun path more actively and could get more panoramic view. One more notable thing in this design is the relationship between the interior space and the exterior – especially the garden. Most of all, by putting an *alfresco* dining place between the two areas, Aalto attempted to link the two closely. The spatial interlocking between outdoor and indoor – not in a speculative level but in a practical level – clearly suggests intimacy with nature in Aalto's design. And the materiality of the *alfresco* dining place – wood flooring – also connotes his intermediating will between the 'raw' and the 'cooked'.

The materiality is a very important issue in this row house because its departure from cold rationalism is also manifested in various textures of materials. Besides the wood flooring on the *alfresco*, Aalto actively used rustic stone pavements before the entrance, wooden balustrades in the terrace and in the entrance pergola-wall, white rendered brick walls, and creeping plants on the wall. Particularly, the uneven surface treatment of brick walls – not only in this row house but also in other Sunila housing – was a reappearance of the 'Aira Building' method. Concerning it, Simo Paavilainen (2001) wrote:

The rendering technique used here gives the wall a soft, uneven surface. This has a major effect on the general appearance and atmosphere of the area. Not as cool and theoretical as the Siedlungs of the continent, but it is warmer and more substantial. Abundant creepers are also an important feature of the façades.<sup>111</sup>

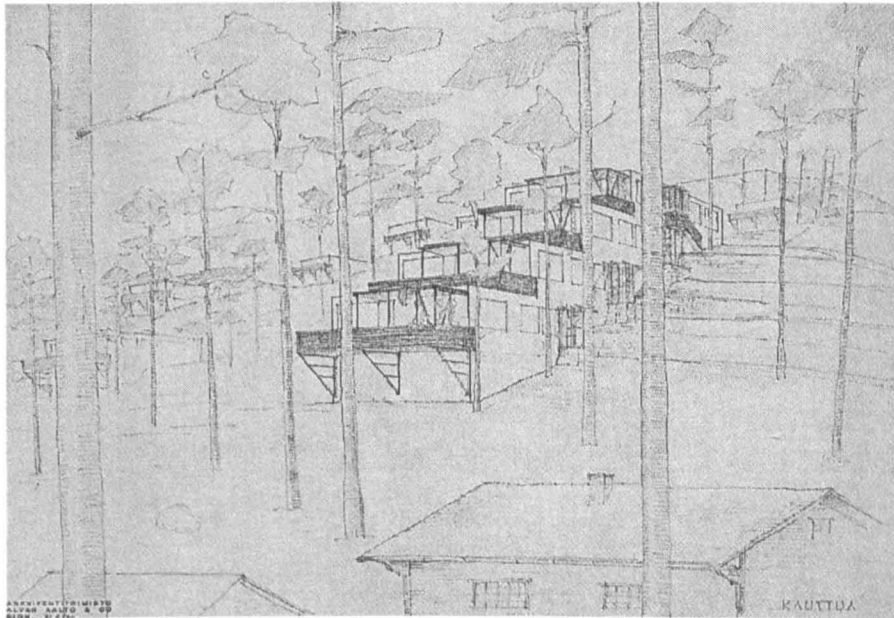
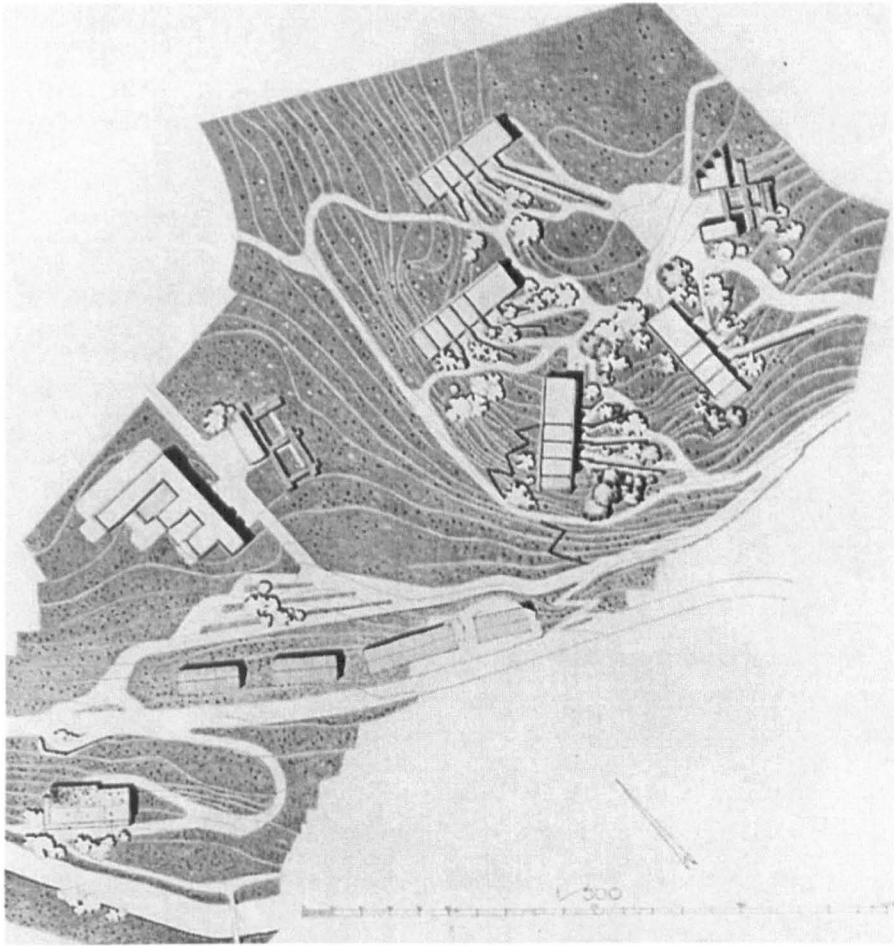
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<sup>111</sup> Paavilainen, S. (2001) 'Alvar Aalto – Modernist in Brick'. In Sippo, H. (ed.) (2001) *Alvar Aalto: The Brick*, Alvar Aalto Museum, Alvar Aalto Foundation, Helsinki, pp. 42-47.

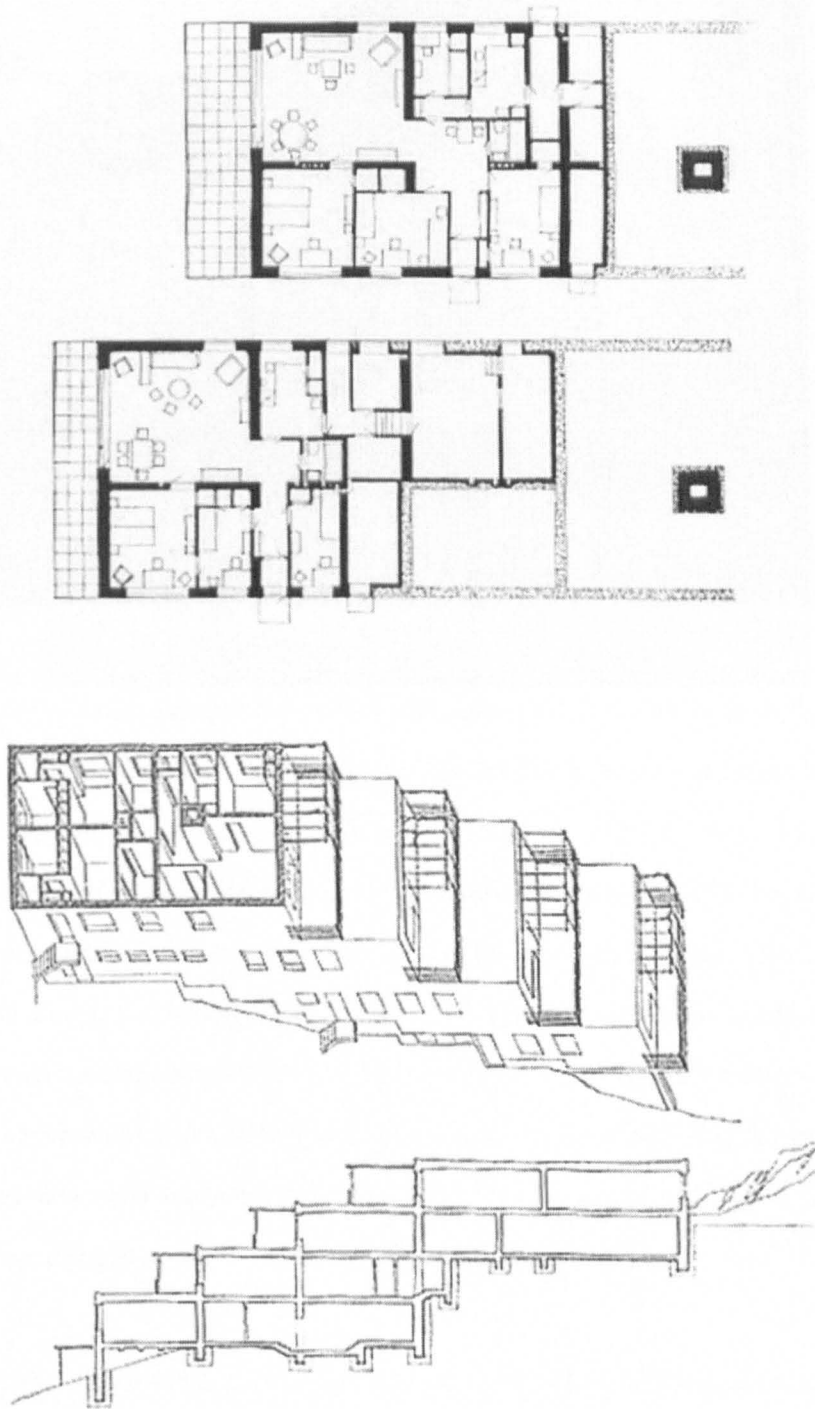
This kind of textural abundance is also one important feature of his own house, the Villa Mairea, and other Aalto buildings. Although this row house is small-scaled and the space of the site and each unit is not so limited, other contemporary modernists' collective housing is hardly rivalled by the achievements in this housing block. And the characteristics of it are undoubtedly due to Aalto's 'more flexible consideration of individual needs' and sensitive response to the natural context. Indeed, it is almost impossible to appreciate Aalto's housing without the natural setting of a forest (or trees), slopes and waters, as opposed to many other modernists' houses that are free-standing objects. In the sense that each apartment gained its uniqueness and identity different from others, it might be said that it achieved the new individualism. And, in the sense that each apartment gained spatial variety, intimacy with nature and textural warmth that general collective housing hardly gets, it might be said that it has a feature of *Existenzmaximum*.

The Kauttua terrace houses are one part of an industrial estate design in Kauttua for the Ahlström Company. In the design, Aalto showed a wonderful solution for dealing with the sloping site and how to make the most of the given natural terrain. He designed four terrace houses around the summit of a hill, and their orientations vary from southward to westward. As we can recognise in the site plan, he located the houses in the steepest part of the area to turn the disadvantage into an advantage for a terrace type house. Each block has four levels and the upper three levels use half of the area of the lower level's roof as a terrace – the lowest level has a narrower cantilevered terrace. And the lower three levels have a basement – on the same level – that is inserted into the slope. While the three lower level units have three bedrooms, one large living room, a kitchen, and a maid's room, the top level contains three apartments – one with the terrace facing forward and two small ones facing backward. As the Sunila engineer's low house has varied units in the block, those of the terrace house block are also slightly different in its size or formation. However, the different thing between the two types is that the former does its variation in plan, as opposed to the latter in section. To utilise the slope, the units have their own entrances in each level, and, again, the entrances are

[Fig. 6-18] Kauttua site plan (top) and sketch (bottom)



[Fig. 6-19] Kauttua terrace houses, 1937-39: plans (top), section (middle) and exterior photo (bottom)





originally designed to be distinguishable from each other in the platform type and material and in the pergola composition. Clearly enough, we can find here Aalto's intention to emphasise individuality despite the house's collectivity. On the other hand, these terrace houses demonstrate fusion of white modernism and natural elements. As it were, in the white body of the block, Aalto installed terrace rails made up of unbarked timbers rather than steel pipes of modern ocean liners, and creepers on it make the house more 'environment-friendly'. In addition, the rustic stone embankments on the slopes draw vernacular rusticity to the house. All of these are characteristics of the Villa Mairea, too. Considering that the terrace houses were designed and built between 1937 and 1939, at the same time as the Villa Mairea commission, we can guess that the same ideas haunted both projects.

Likewise, the row house for engineers in Sunila and the terrace houses in Kauttua marked a significant departure from the rigid rationalism in Aalto's collective housing design, and they took a decisive step towards the new individualism and *Existenzmaximum* beyond the limitations of collective housing. In post-war housing projects, Aalto had a full swing of these

characters, which become a typical Aaltoesque gesture. Before going over to post-war projects, I had better mention one more housing planning in Helsinki, which Aalto submitted for a competition organised by HAKA construction firm in 1940. Although it was not successful, it deserves attention because it bridges the gap between the housing projects of the late 1930s and of the post-war period. In the given site of a triangular shape, he designed eight tower blocks. And each block is combined from two different irregular shaped blocks – one is seven storeys high and the other eight storeys. About this plan, the jury commented that it is ‘interesting but hardly apt to meet the need for a simple dwelling plan. Too many apartments reached by lift. Costly construction methods, few apartments’, but they also admitted that it is ‘a fresh approach to the town plan, making exclusive use of point blocks. Well-adapted to the terrain’.<sup>112</sup> Judging from a perspective drawing, each floor of the blocks must contain very different types of units, which take pride in their unique identity and spatial abundance. They are clearly distinguished from regular arrays of cuboid housing blocks by many other modernists. Needless to say, these apartments blocks were forerunners of his post-war high-rise housing blocks.

**[Fig. 6-20] Aalto’s plan for HAKA housing competition**



<sup>112</sup> Schildt, G. (1994b) *op. cit.* pp. 232-234.



#### 6.2.4. Individuality within Collectivity of Post-war Projects

Aalto received commissions for various housing projects during the World War II (1939-45),<sup>113</sup> but they were relatively small-scaled. Perhaps, Heimdal housing design (1946) in Nynäshamn, Sweden was the largest project that Aalto had been involved in since the HAKA housing plan. This housing area was designed to comprise six- or seven-storey 'point blocks' and three-storey, oblong 'string blocks'. Concerning this project, Aalto wrote an article 'Building Height as a Social Issue' in [Arkkitehti] in 1946.<sup>114</sup> Interestingly, he regarded a six-storey building as 'exceptionally high', and expressed his preference for a low-rise building – thanks to the possibility of 'direct access to nature' – except in some special cases. (It is very antithetic to the rationalist propaganda of Le Corbusier and Gropius.<sup>115</sup>) If high-rise apartment blocks are inevitable, Aalto argues, 'they must ... meet more stringent architectural requirements, and they call for a stronger sense of artistic and social responsibility.'<sup>116</sup> In the Heimdal area, high-rise (six to seven storey) blocks seemed to be necessary to Aalto for financial reasons, but he tried to satisfy the 'artistic and social responsibility', instead. Time and again, he made the most of the natural terrain. That is to say, he sited the point blocks in 'basin-like hollows', and made an access bridge between the upper terrain level and the third floor. Therefore, 'none of the apartments in these six-story blocks rises more than two stories above the ground level; the houses can be considered as two superimposed three-story buildings'.<sup>117</sup> On the other hand, the point block with a fan-shape plan has an oblong corridor with a staircase and a lift, and five different type units, which vary from a studio flat to two-bedroom apartment. And the block has a red brick façade, which anticipates the red brick

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<sup>113</sup> During the Second World War, Finland came to be implicated in the Winter War (30 November 1939 – 12 March 1940) and in the Continuation War (1941-44), both of which could be defined as the resistance against the Soviet Union for her national security. See Singleton, F. and Upton, A. F. (1998) *A Short History of Finland*, Cambridge University Press, Cambridge, pp. 122-133.

<sup>114</sup> Aalto, A. (1946) 'Building Height as a Social Issue', *Arkkitehti*, no. 7-8. Republished in Schildt, G. (ed.) (1997) *op. cit.* pp. 206-209.

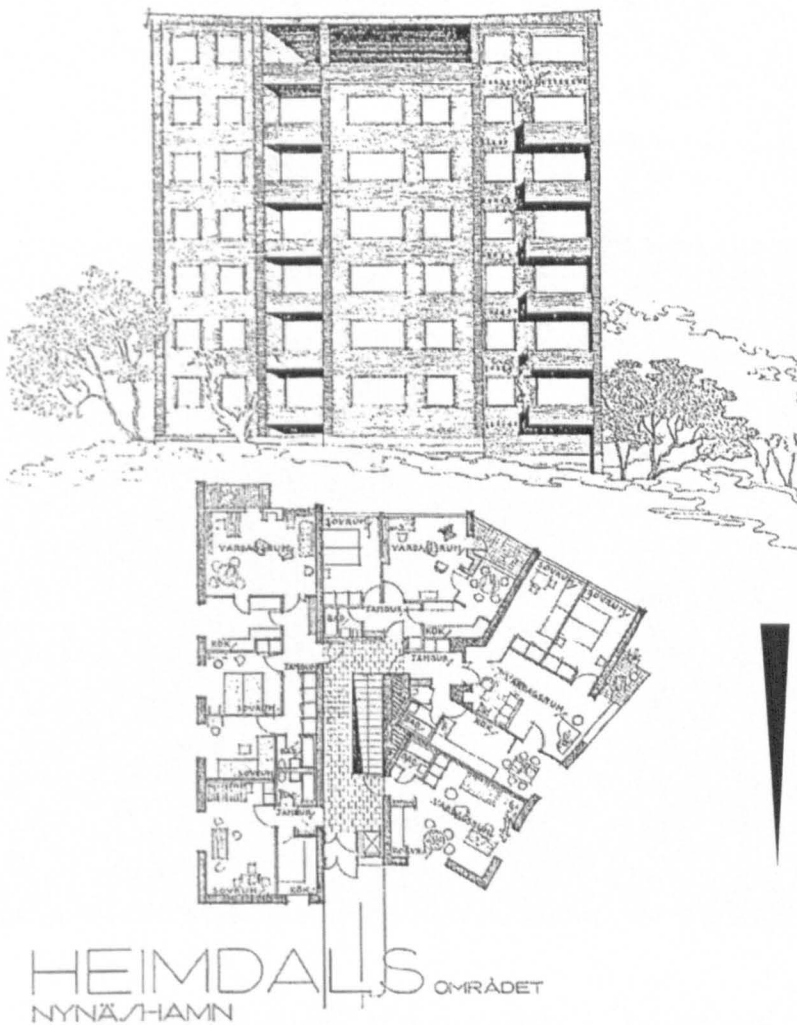
<sup>115</sup> Particularly in the 3<sup>rd</sup> CIAM in Brussels (1930), Corbusier asserted the necessity of '15, 20 or more storey' buildings, and Gropius were in the same line in his questioning 'Low-, Mid-, or High-rise Building?' Mumford, E. P. (2000) *op. cit.* pp. 49-58.

<sup>116</sup> Aalto, A. (1946) *op. cit.* pp. 207-208.

<sup>117</sup> *Ibid.* p. 208.

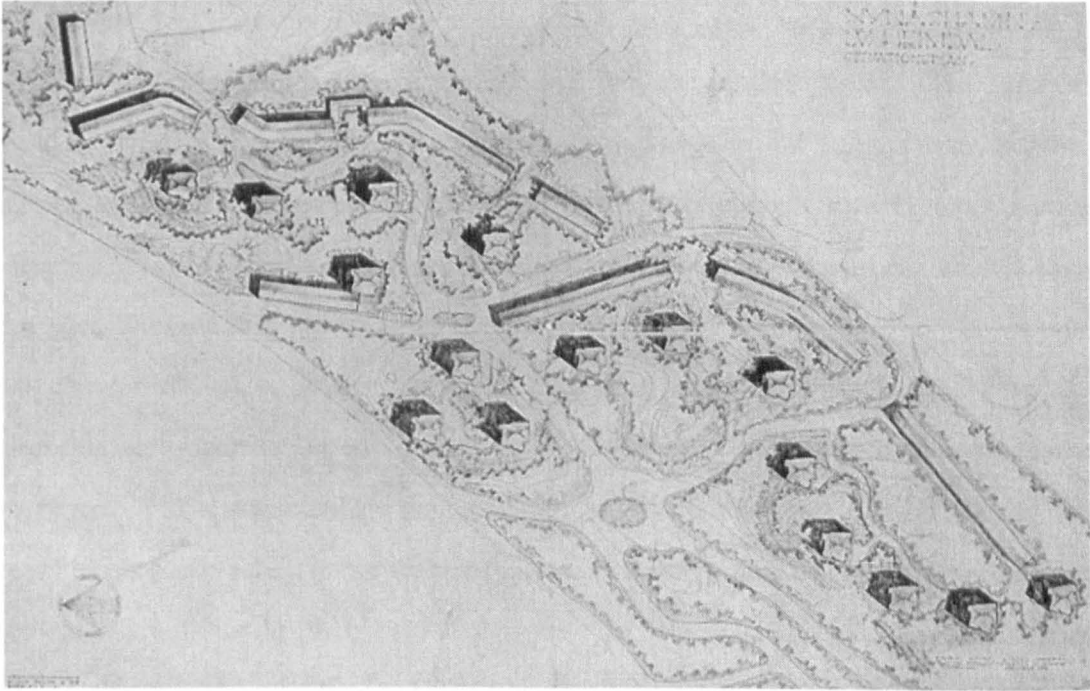
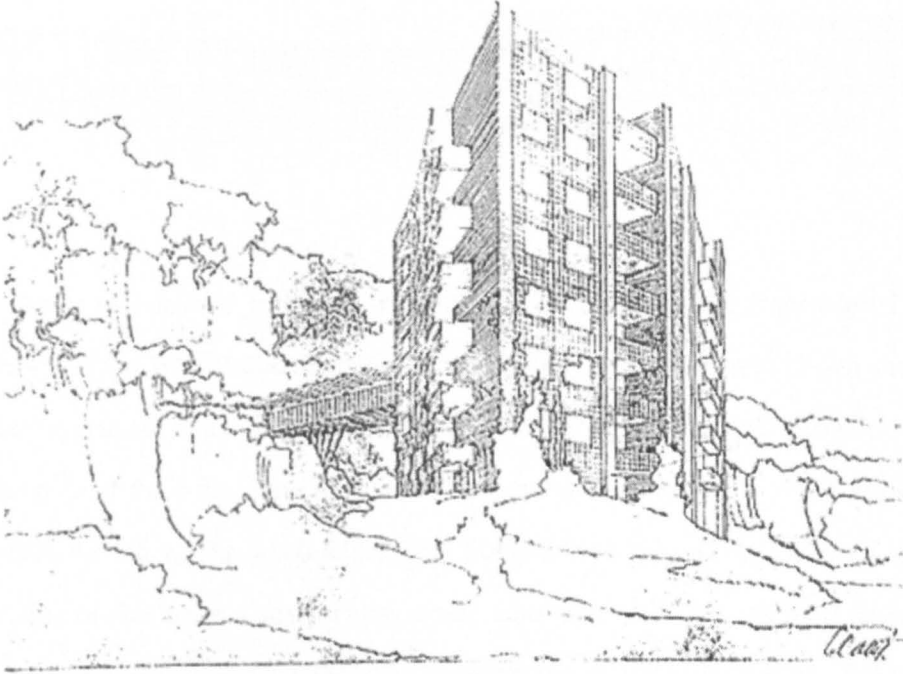
dormitory, MIT Baker House (1947-48). In this housing project, we could find that Aalto had already been far away from the rationalist mode around 1930s and read some of his important design concepts: compliance to natural environment, fan-shaped plan splaying southwards, variation in the sizes and types of flats in each floor, consideration of easy access and short circulation, making the most of every corner, etc. These were also the very features that Scharoun showed in his housing designs. Regrettably, this housing project was not executed according to his original design but to a considerably altered version by a Swedish architect.<sup>118</sup>

[Fig. 6-21] Elevation and plan of Heimdal housing design in Nynäshamn, Sweden, 1946

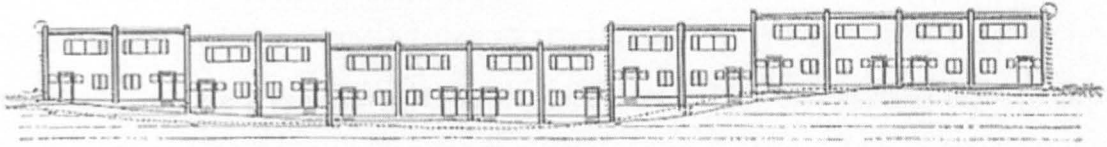


<sup>118</sup> Schildt, G. (1994b) *op. cit.* pp. 237-238.

[Fig. 6-22] Heimdal housing design in Nynäshamn, Sweden, 1946: perspective (top), site plan (middle) and skyline sketch showing 'compliance to terrain' (bottom)



[Fig. 6-23] Sunila 'D building' elevation showing 'compliance to terrain', 1936-37



In 1954, Aalto was invited to design a residential building for the Hansaviertel Interbau Exhibition (1957) in West Berlin. Through several design stages, he could design and built an eight-storey apartment block between 1955 and 1957. It contains ten apartments in each floor except the ground floor that has eight apartments and a large entrance hall – altogether 78 apartments in the block. The whole block plan forms a short U-shape and it could be divided into two parts of five units. Each part has a very economic hall with sidelight, in which one staircase and one lift serve the wing. The composition of the units did not follow a rigid regularity but steps the exterior walls at every balcony corner. And the two wings of the block were slightly bent, deviating from the straight axis. Both the stepped balcony corners and the bent wing could be regarded as Aalto's endeavour to make every unit face to the south. Also, they help each apartment to be distinguished from others. According to Fleig (1963), the main concept of it was to combine the advantages of an apartment block and a private house, which were after all to make 'a protected interior court' within each apartment. 'The conventional small corridor-like balconies were here transformed into patios around which the rooms of the apartments were grouped. This grouping around the open-air room created an intimate, private atmosphere.'<sup>119</sup> The focus on the direct relation with a garden from each apartment was already emphasised in the above-mentioned Heimdal housing plan, and this character had also been studied well in the Villa Mairea design – the enclosed courtyard and the interior landscape. In fact, the idea was possibly enhanced by Corbusier's concept of the 'hanging garden' (see Fig. 5-45), whose picture Aalto had presented in his article 'From Doorstep to

<sup>119</sup> Fleig, K. (ed.) (1963) *Alvar Aalto: Band I 1922-1962*, Verlag für Architektur Artemis, Zürich, p. 168.

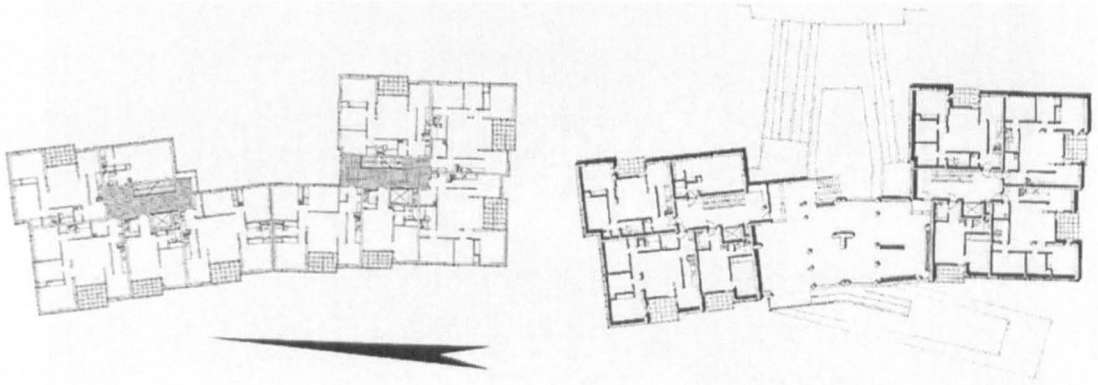
Living Room' (1926).<sup>120</sup> And the living room, which is located at the centre of each apartment, functions as a core not only of a family life but also of the circulation. Among all the residential buildings in the Interbau Exhibition, many people seemed to value Aalto's building most highly as we can see in the headline of [Welt am Sonntag] report, 'VON ALLEN BEWUNDERT: AALTO BAU (Aalto Building Admired by All)'.<sup>121</sup> What is more, Aalto also appeared to be quite satisfied with this apartment block, because he used it as a basic model in mass housing plans in the following years as Le Corbusier did with Unité d'Habitation. That is, Aalto won the first prize in Kampementsbacken Housing Development competition in 1958, for which he arrayed a series of the same apartment blocks in the site – not built as designed. And, in 1959, he again used the variation of the building (Hansaviertel + Neue Vahr) for a housing development scheme in Karhusaari-Hanasaari islands but it was not executed.

**[Fig. 6-24] Aalto's apartment block for Hansaviertel Interbau Exhibition in Berlin, 1957: exterior view (top), typical floor plan (bottom left) and ground floor plan (bottom right)**



<sup>120</sup> The picture of a 'hanging garden' was originally shown at the Esprit Nouveau Pavilion at the Exhibition of Decorative Art in Paris in 1925 and also published in his [Urbanisme]. Le Corbusier (1987) *The City of To-Morrow and Its Planning*, Dover, New York, p. 225. Aalto's article 'From Doorstep to Living Room' (1926) was republished in Schildt, G. (1984) *op. cit.* pp. 214-218, and Schildt, G. (ed.) (1997) *op. cit.* pp. 50-55.

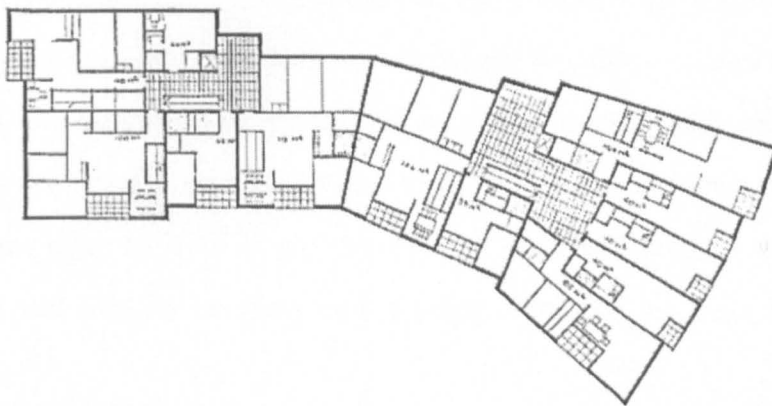
<sup>121</sup> Schildt, G. (1991) *Alvar Aalto: The Mature Years*, Rizzoli, New York, p. 189.



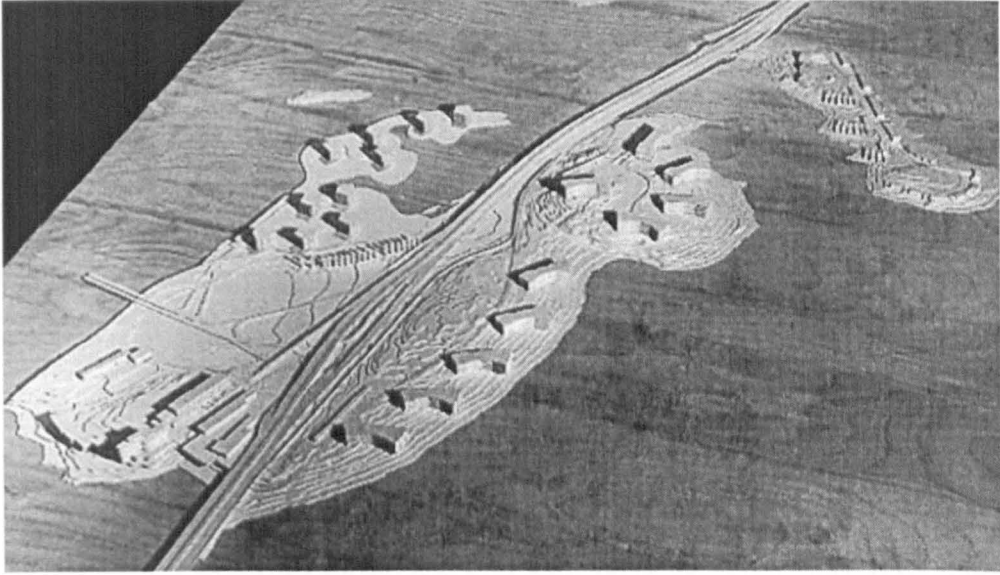
[Fig. 6-25] Kampementsbacken housing development competition design, 1958



[Fig. 6-26] Housing design in Karhusaari-Hanasaari islands, 1959: a variation of 'Hansaviiertel + Neue Vahr' apartment (top) and site model (bottom)







The 22-storey 'Neue Vahr' apartment in Bremen (1958-62) is quite contradictory to his asserted preference to low-rise housing. Although he had even planned 14~18-storey high-rise apartment blocks for Nedre Norrmalm and Munkkiniemi under the rationalist influence, the eight-storey Hansaviertel apartment was the highest one that had been executed. On the building height issue, Aalto changed his opinion from before (1946), declaring that: 'high-rise housing is acceptable for singles or young couples living in a city centre for a short term though it is inadequate for families or long-term dwellers.'<sup>122</sup> As argued, this apartment building is for single people or childless couples. Except the ground floor, which has a hall, an office and several shops, every floor contains nine small units, which are studio flats or one-bedroom apartments. Each unit forms a different wedge shape and the whole block plan assumes a widely unfolded fan, a form that had been partly tested in his 'Rakovalkea' housing block in Rovaniemi (1956-60). Through the wholly glazed west side – windows and a balcony, the apartments face maximum daylight and the open air. Considering the site plan, we can guess the reason why Aalto oriented the plan to the west not to the south. By doing this, inhabitants could enjoy the view of greenery more in the west side rather than that of the shopping mall and concrete pavement in the south – he gave the view the priority of

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<sup>122</sup> *Ibid.* pp. 195-197.

orientation to sunshine. The public space on the other side of each floor contains staircases, lifts and a common room, and there are a club and an observation terrace in the roof storey, public facilities which reveal the building's character of 'social-collective living'<sup>123</sup> and remind us of what Aalto mentioned about three decades ago: 'The smaller the home is, the more everyday activities must be transferred to joint-access areas.'<sup>124</sup> In a way, this apartment looks more like a dormitory rather than general self-contained housing. The MIT Baker House (1947-48) and the student housing for the Helsinki University of Technology (TKY 8, 1962; TKY 2, 1963-66) have similar characteristics in their requirements and in the morphological concept. Nevertheless, the most renowned point in the 'Neue Vahr' apartment might be the successful escape from the rigid right angle in every unit and its balcony. And the uniqueness of every unit could be said to express fully the unknown dweller's individuality. Fleig (1963) reports that the fan shape plan was a result 'from an effort to avoid the depressing, closed-in feeling that one often experiences in small apartments', which gives the inhabitants 'a feeling of release'.<sup>125</sup> This psychological comfort is also enhanced by various characteristics of the plan type. As I implied in former examples, it could gain more sunlight and wider view. And each flat is hardly bothered by neighbour units because the directions of view radiate from each unit. On the other hand, concentrated public facilities around the centre (of the arc) make the communal space very economic. That is, the access and circulation becomes shorten and not cut off from daylight, and there is no wasted space. This kind of fan shape plan became an established Alvar Aalto order of a housing block here as in other purpose buildings like a theatre or an auditorium. As I have described so far, the concept of a fan shape plan in collective housing that had germinated in the Sunila row house (1936-37) was tested in Heimdal housing (1946) and in 'Rakovalkea' housing (1956-60) differently, and came to be in full bloom in the Neue Vahr (1958-62). In later housing schemes, we can find the variants typically in 'Schönbühl' apartment in Luzern (1965-68) and Gammelbacka Housing in Porvoo (1966).

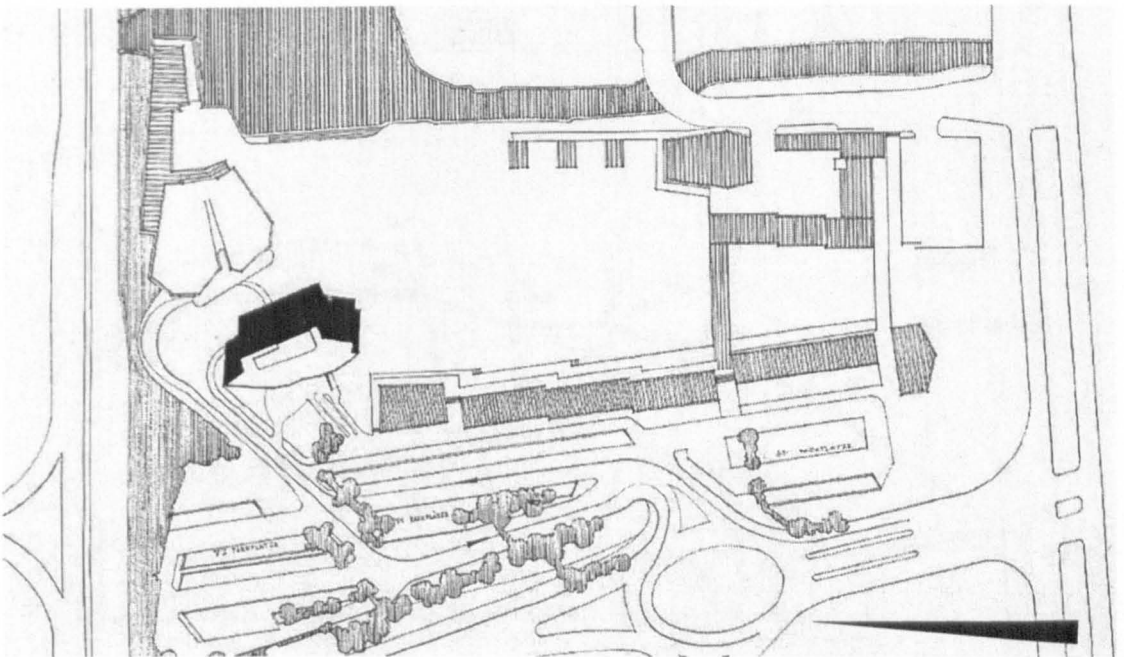
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<sup>123</sup> Schildt, G. (1994b) *op. cit.* p. 241.

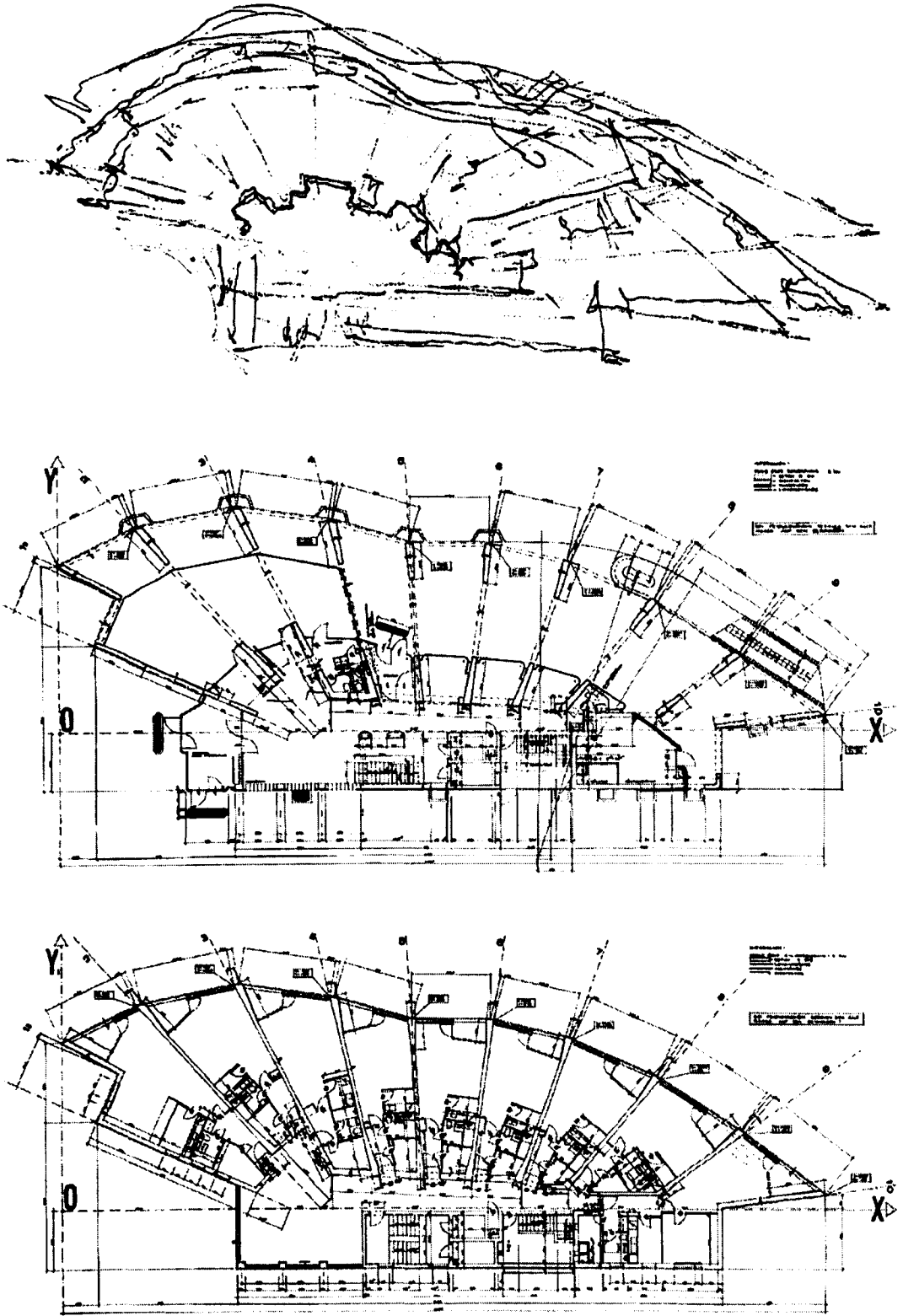
<sup>124</sup> Aalto, A. (1930b) *op. cit.* p. 75.

<sup>125</sup> Fleig, K. (ed.) (1963) *op. cit.* p. 262.

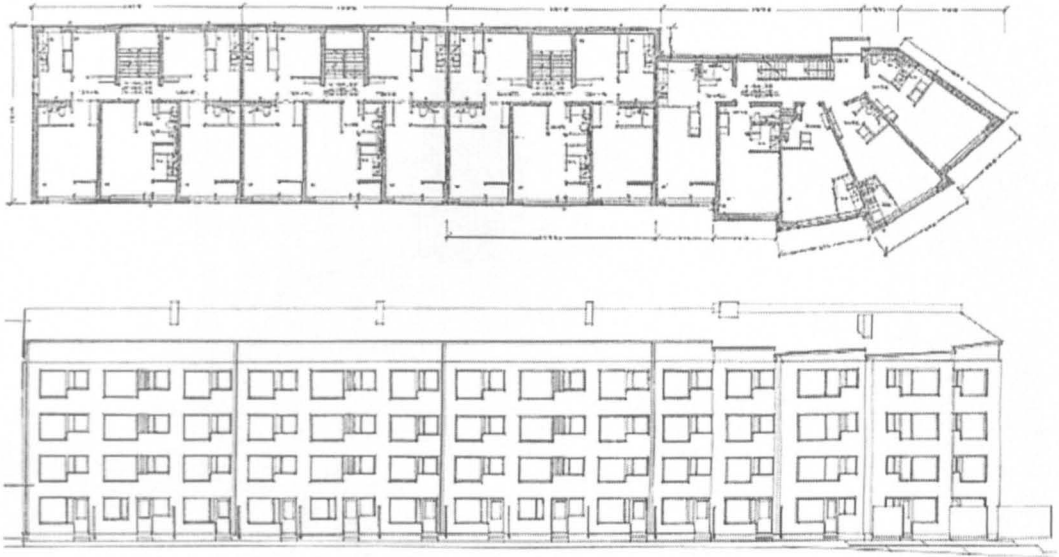
[Fig. 6-27] 'Neue Vahr' apartment block in Bremen, 1958-62: view from west (top) and site plan (bottom)



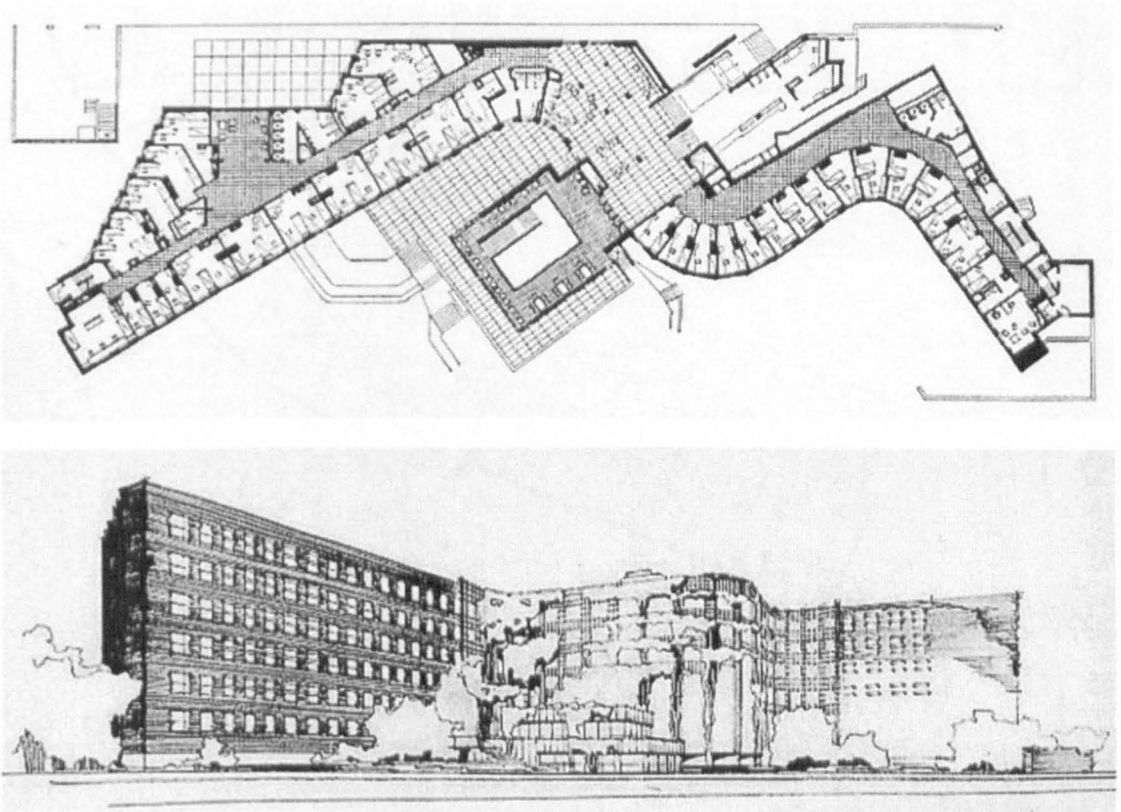
[Fig. 6-28] 'Neue Vahr' apartment block in Bremen, 1958-62: idea sketch (top), ground floor plan (middle) and typical floor plan (bottom)



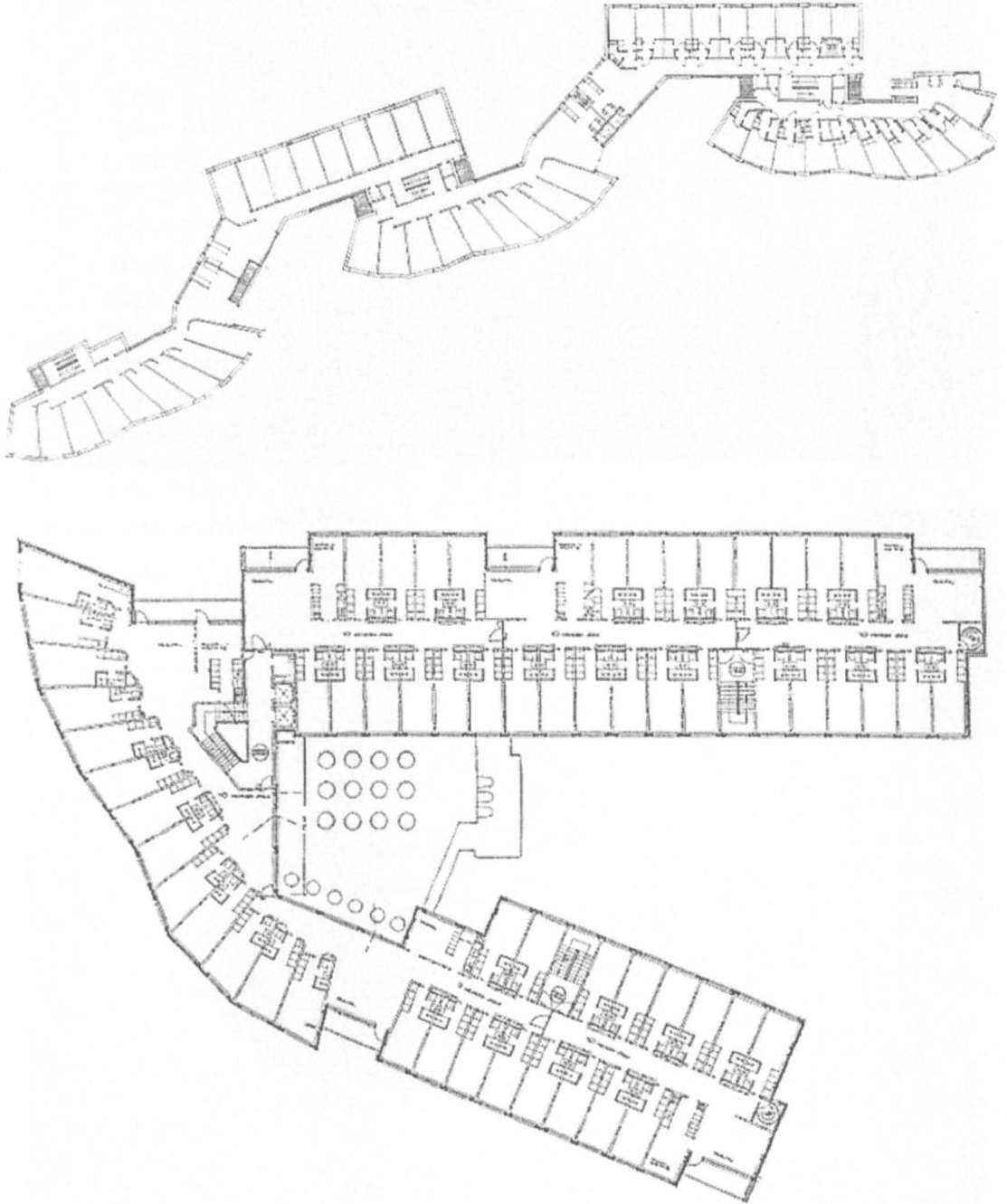
[Fig. 6-29] 'Rakovalkea' housing block in Korkalovaara, Rovaniemi, 1956-60: plan (top) and elevation (bottom)



[Fig. 6-30] MIT Baker House, 1947-48: plan (top) and elevation (bottom)

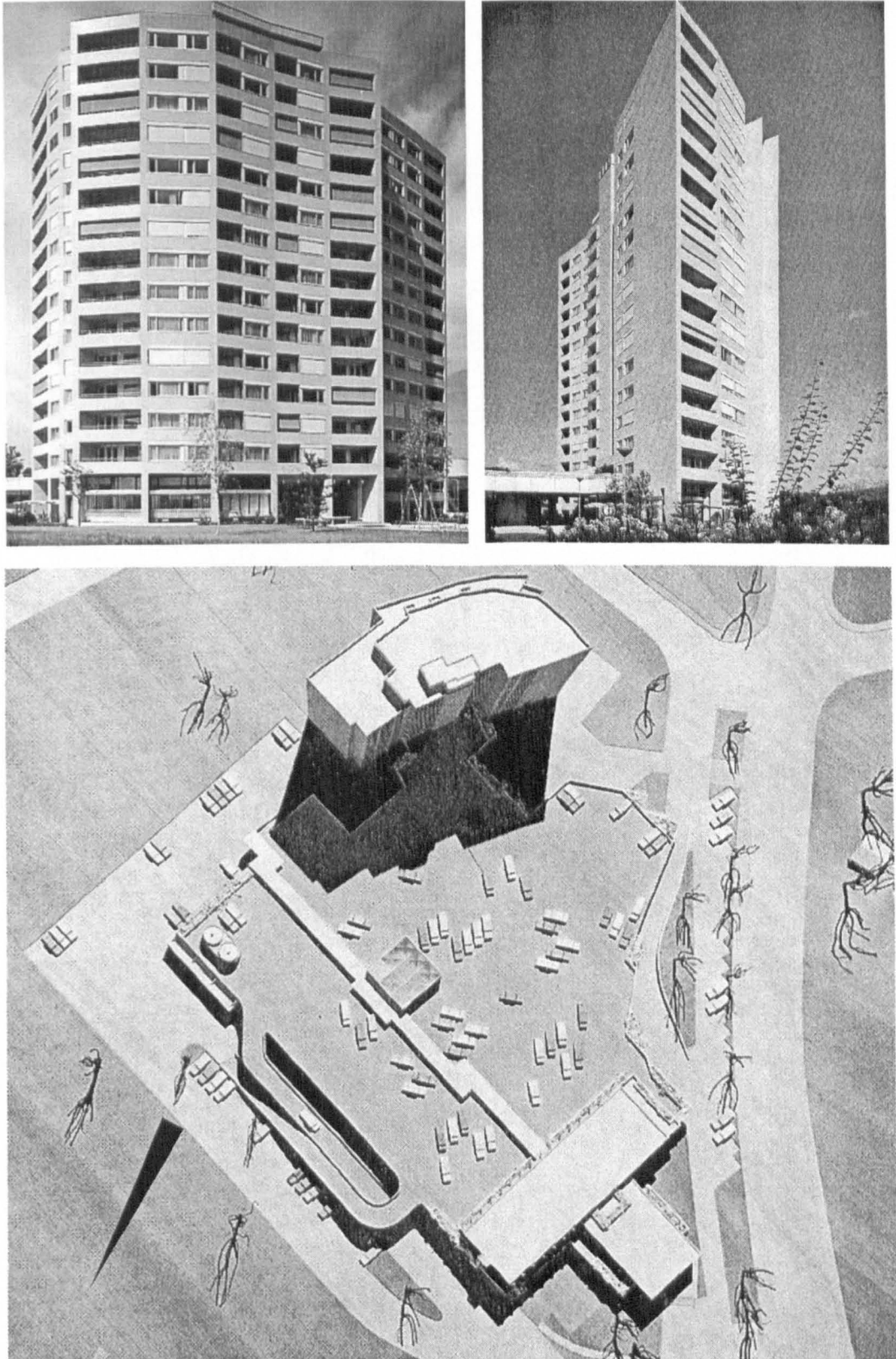


[Fig. 6-31] Student housing for Helsinki University of Technology: TKY 8, 1962 (top) and TKY 2, 1963-66 (bottom)

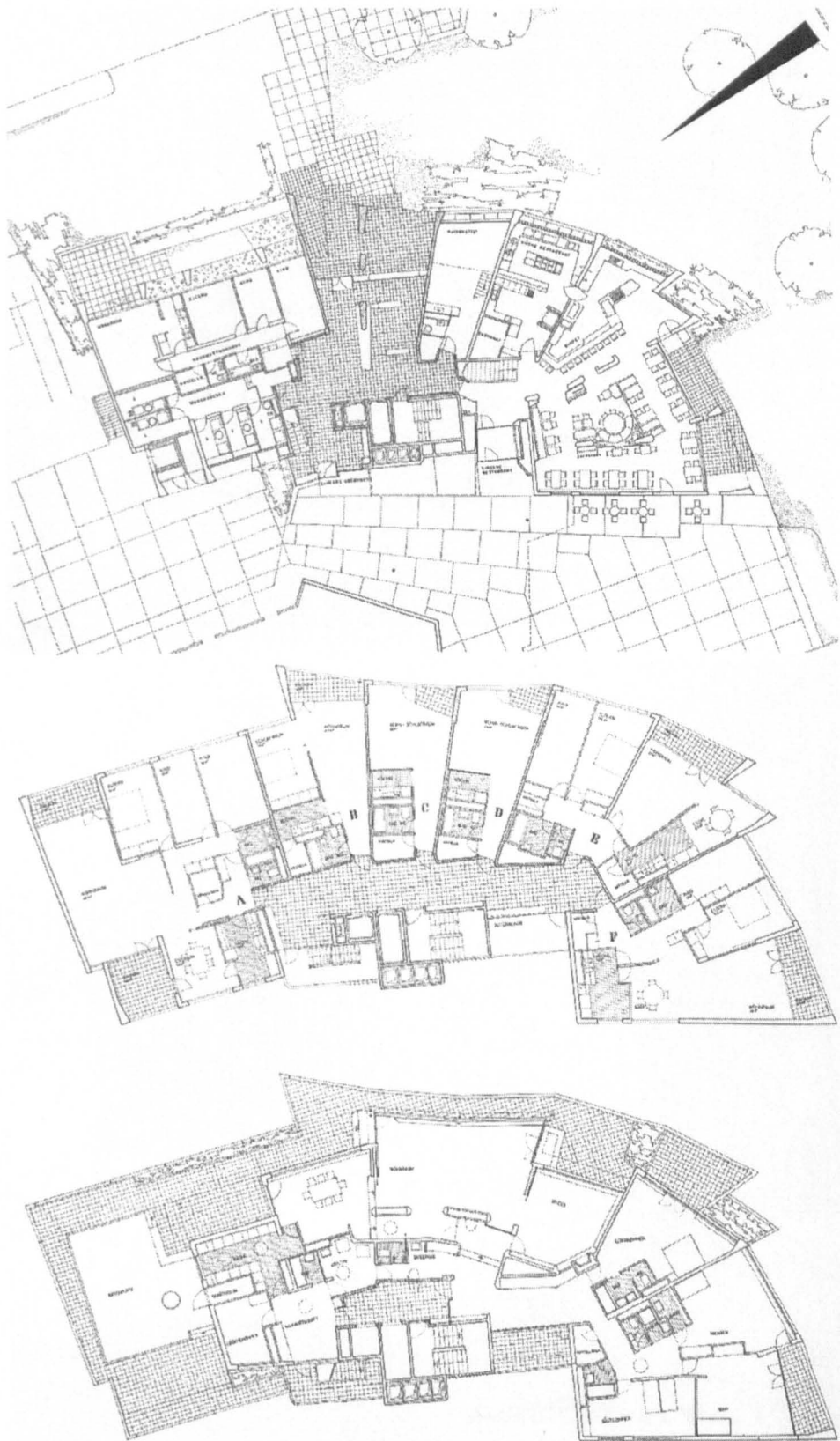




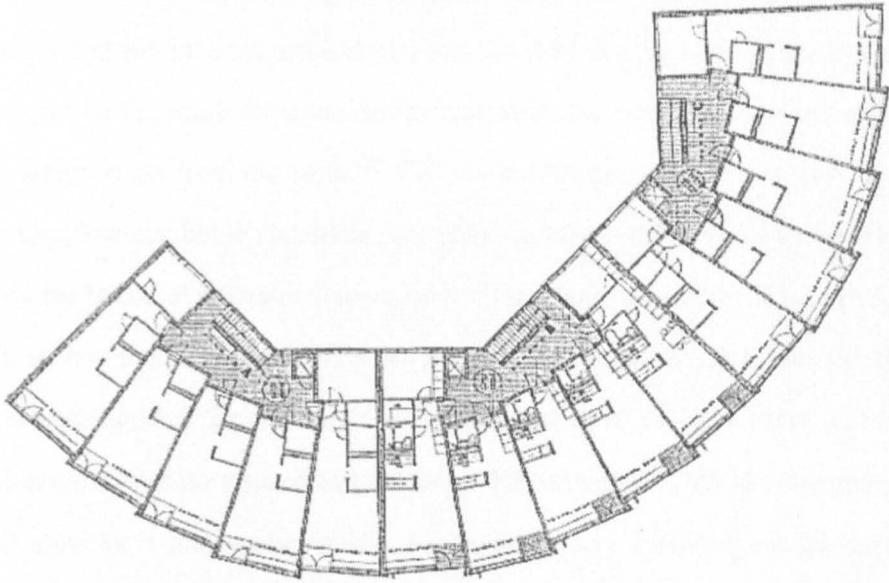
[Fig. 6-32] 'Schönbühl' apartment in Luzern, 1965-68: exterior views (top) and site model (bottom)



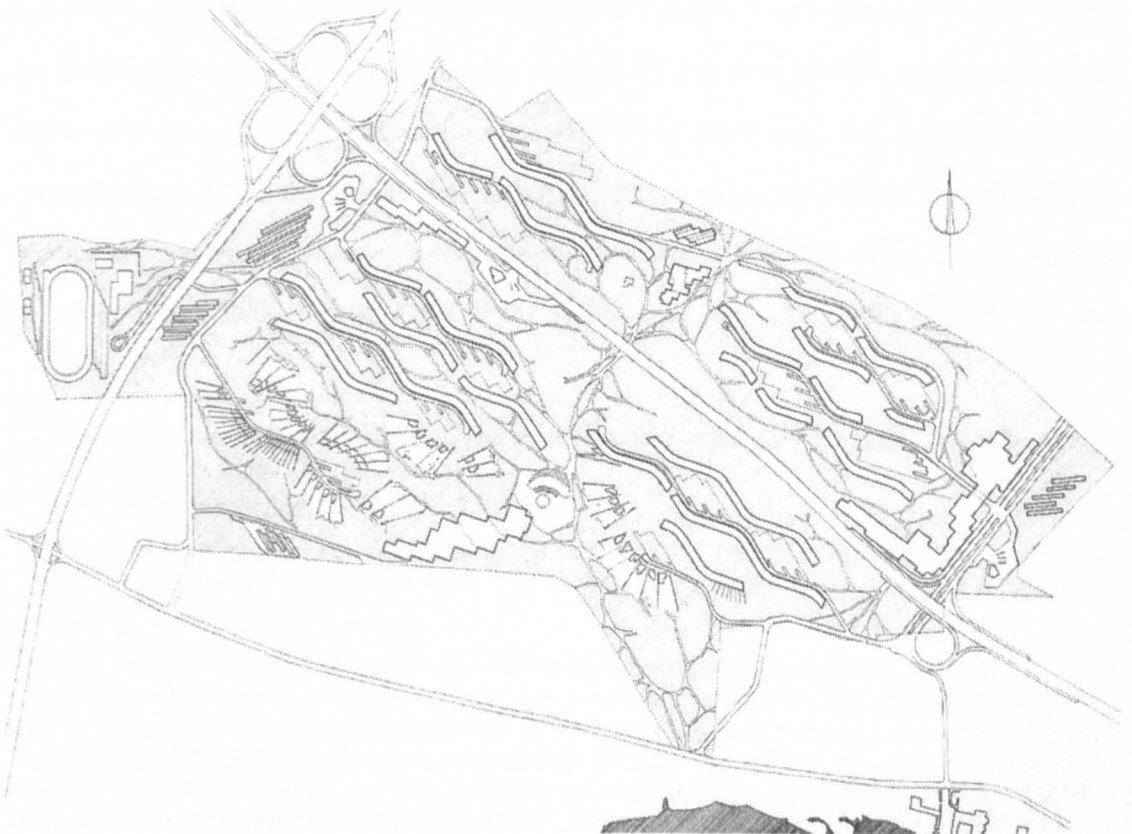
[Fig. 6-33] Varied floor plans of 'Schönbühl' apartment in Luzern, 1965-68: ground floor (top), typical floor (middle) and attic level (bottom)



[Fig. 6-34] 'Gammelbacka' Housing in Porvoo, 1966



[Fig. 6-35] Housing area plan near Pavia in Italy, 1966



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Up to now, I have described characteristics of Aalto's collective housing projects, which make him distinguished from the rationalists who just put flats like packaging. The key advantages of them might be the result from his design approach that could be summarised as follows. First, his design starts from the earth.<sup>126</sup> The close dialogue with the site gave him the first idea regarding how the house should be. The effort to follow the terrain and to make the most of it allows the house an intimate relationship with the earth, *i.e.* nature as we can see in many examples, such as the Sunila engineer's row house, the Kauttua terrace house and the Heimdal housing design. Second, the orientation is a significant issue to Aalto because it decides the relationship between indoor space and outdoors. The response to the site suggests to him the initial guideline for it, and basing on this, the *phototropism* – following the sun path – and the will to a better vista were the critical factors of the orientation. In most designs, Aalto chose a southward orientation (southwest ~ south ~ southeast) – as most architects do – but some cases have other orientation owing to the view or other factors (*e.g.* west-facing Neue Vahr apartment). Critically, to get maximum daylight and widest view, he splayed the plan towards the balcony side. This solution is also the strategy for the third advantage: easy access and short circulation. In those plans, one needs not walk along long and dark corridors. As commented above (on the Neue Vahr apartment), the fan shape plan is also better at securing privacy and for psychological comfort. Fourth, he tried to design as many types of flats as possible in one floor.<sup>127</sup> Particularly, flats in both ends are different each other and from

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<sup>126</sup> Following Masaya (1983), I regarded Aalto as the greatest architect of 'the earth'. See 'Chapter 3.2.2. Contour and Level Change'.

<sup>127</sup> Aalto had ever emphasised this issue as follows:

The principal danger in social housing construction is to produce monotonous housing by unreasonably cutting costs. One way to counteract this is to use as many different house types as possible.

Fleig, K. (ed.) (1978) *Alvar Aalto: Band III*, Verlag für Architektur Artemis Zürich, p. 50. This comment clearly shows his attitude towards a collective housing plan in his late years. Aalto thought that 'as many different house types as possible' might be embodied in a housing area plan near Pavia in Italy (1966) (Fig. 6-35) though it was not executed. In the plan, he designed serpentine high-rise blocks alluding to the MIT dormitory, row houses fanning out like the Sunila engineers' house, a fan-shaped tower block resembling Schönbühl apartment, and curvier houses reminiscent of the Gammelbacka block.

middle ones, and sometimes the ground floor, the typical floor and the attic level are different one another (e.g. 'Schönbühl' apartment) because the conditions are different. The variation in size and type emphasises each flat's speciality and gives it characteristics of a single-family house. Stepped corners distinguish one individual unit from neighbours in the façade,<sup>128</sup> and a garden-like balcony (as in the Hansaviertel apartment) allows flats the atmosphere of a private house on the ground. Last but not least, his usage of various materials heightens the value of space by adding the textural warmth (as in Sunila and in Kauttua). Particularly, his use of brick, timber, stone and even creepers with industrial materials makes inhabitants not lose sight from nature.

These features of Aalto's collective housing contrast with the concepts of the orthodox socialists, to whom he had belonged for a short time, that the cheaper the better for all people, and that uniformity means equality. They also differ from the ideas of the orthodox rationalists that universality is fit best for modern culture and that the constructional convenience should come before the spatial quality. Again, Aalto's approach warns against scientific determinists who depend only on the calculator's high-density solution. Instead, he tried to heighten the quality of space both in a physical level and in a psychological level in his collective housing projects. Through the designs, Aalto argues that people have the right to enjoy a 'maximum living' even in a small flat. Through the designs, Aalto argues that individual needs should be considered flexibly even in mass-produced housing. This is why I epitomise the characteristics of his collective housing as 'New Individualism in Existenzmaximum'.

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<sup>128</sup> They also allow a wide angle of view and sunshine.

### 6.3. Tracing the Case of Hans Scharoun

Among many modern architects, there was nobody like Hans Scharoun (1893-1972) that could be paralleled best to Alvar Aalto (1898-1976) in terms of architectural language. If Tafuri (1976) argued that Scharoun and Häring recovered an 'aura' in terms of Benjamin's phrase,<sup>129</sup> Porphyrios (1982) asserted similarly that Aalto retrieved a cultural 'aura' that modern architecture had lost for a long time.<sup>130</sup> In addition, Porphyrios also compared more directly Aalto's Neue Vahr apartments and Schönbühl apartments with Scharoun's 'Romeo and Juliet' apartments.<sup>131</sup> Frampton (1980) related Aalto's 'organic approach' to Scharoun's and Häring's works, and located him among 'Northern European Expressionist architects'.<sup>132</sup> Particularly, Blundell Jones (1995) highly praised both as 'important figures ... born in the 1890s'<sup>133</sup> and regarded them as sharing a similar tradition that could be called 'organic architecture' with other architects like Wright (1867-1959) and Häring (1882-1958).<sup>134</sup> Besides the two's similar architectural tendency, there are other reasons that I focus here on Scharoun not on Häring as Aalto's parallel. Firstly, they belonged to the same generation as Blundell Jones pointed out. Scharoun was just five years older than Aalto, but Häring was sixteen years older. Secondly, they concentrated more on practice rather than on theory<sup>135</sup> and

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<sup>129</sup> Tafuri, M. (1976) *Architecture and Utopia: Design and Capitalist Development*, MIT Press, Cambridge, MA, p. 117.

<sup>130</sup> Porphyrios, D. (1982) *Sources of Modern Eclecticism*, Academy Edition, London, pp. 113-115.

<sup>131</sup> *Ibid.* p. 106.

<sup>132</sup> Frampton, K. (1992) *Modern Architecture: A Critical History*, Thames & Hudson, London, p. 202.

<sup>133</sup> Blundell Jones, P. (1995) *Hans Scharoun*, Phaidon, London, p. 18.

Following the second generation, a few important figures were born in the 1890s and came to their maturity in the late 1920s: Hans Scharoun (1893) was one and Alvar Aalto (1898) another. They are architects who took part in the original struggle of the heroic period and yet were still building in the early 1970s. History has not yet fully assimilated them.

<sup>134</sup> Blundell Jones has dealt with the cases of 'organic tradition' through many writings. See Blundell Jones, P. (1978) 'Organic Versus Classic', *AAQ*, vol. 10, no. 1, pp. 10-20; (1985) 'Organic Response', *Architectural Review*, June 1985; (1988) 'From the Neo-Classical Axis to Aperspective Space', *Architectural Review*, March, pp. 19-27; (1995) *Hans Scharoun*, Phaidon, London, p. 14; and (1999) *Hugo Häring: The Organic versus the Geometric*, Edition Axel Menges, Stuttgart/London, p. 9.

<sup>135</sup> Whenever Aalto was asked about his architectural theory in later years, he responded, 'I answer with my buildings.' Schildt, G. (1986) *op. cit.* p. 227, and Zevi, B. (1950) *Towards an Organic Architecture*, Faber & Faber, London, p. 57. 'In later years Scharoun referred repeatedly to Häring as the figure of intellectual authority: "Hugo soll reden", he would say, "Let Hugo speak".' Blundell



left many completed works. As for Häring, he had relatively fewer buildings executed because he actively worked as a theorist, too, not only as a practitioner.

Despite the similarities and successful works of the two, however, Scharoun was comparatively less known in the international world until 1963 when his Berlin Philharmonie (1956-63) got tremendous worldwide resonance, while Aalto was already accepted as one of the greatest modern architects. Several reasons could be raised for it. Among them, 'architectural geopolitics' might be the most significant matter. As well revealed by Blundell Jones (1995; 1999, etc.), the German stream of *Neues Bauen* or *Organisches Bauen* was not admitted into the modern movement in 1920s and 1930s, when *die neue Sachlichkeit* was acclaimed as the International Style. Especially, the serious conflict between Häring and the CIAM secretary Giedion in the first CIAM years played a decisive role of expelling the stream from the main movement.<sup>136</sup> Scharoun never attended the CIAM, and Giedion excluded Häring and Scharoun from his book, [Space, Time, and Architecture].<sup>137</sup> In contrast, Aalto had been a close friend of Giedion since their first meeting in the Frankfurt CIAM (1929), and since the second edition of his book (1949) when Aalto's chapter was inserted, he had been treated as importantly as Le Corbusier. The whole chapter was also republished in [Architectural Review] in February 1950.<sup>138</sup> On the other hand, for more than a decade during the Nazi regime in Germany (1933-45), Scharoun could not work actively as an inner exile, while Aalto worked energetically in the international stage. Particularly, his successful Finnish Pavilions for World's Fairs in Paris (1937) and in New York (1939) and the exhibition of his architecture and furniture at the Museum of Modern Art in New York (1938) became a vehicle

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Jones, P. (1995) *op. cit.* p. 94.

<sup>136</sup> Blundell Jones, P. (1999) *op. cit.* pp. 106-109.

<sup>137</sup> In the last (fifth) edition of the book (1967), Giedion added only several sentences – in the almost 900 page book – about Scharoun's Philharmonie at best. Giedion, S. (1967) *Space, Time and Architecture*, Harvard University Press, Cambridge MA, p. 686.

<sup>138</sup> Before the Giedion's writing, there had been many articles on Aalto published in international journals, but they were naturally fragmental and not so influential as the 'bible' of modern architectural history. Quantrill catalogued the Alvar Aalto bibliography chronologically (1922-1980) at the end of his 'Critical Study'. Quantrill, M. (1983) *Alvar Aalto: A Critical Study*, New Amsterdam Books, New York, pp. 282-297.

that made him known abroad. Aalto had some inviting points that Scharoun could not have. It is the fact that Aalto came from the country, Finland. If German culture was nothing new in the world, Finland assumed an exotic mood because she is a remote country from the Central Europe and she has a very different natural environment located around the Arctic Circle.<sup>139</sup> Whenever Aalto's designs were introduced to the world, Finnish nature – forest, lake, and the northern lights – was also related with them. If there were many renowned German architects besides Scharoun – no matter how different their tendencies were from him, there was no Finnish architect who could rival Aalto outside Finland. Additionally, Aalto's optimistic and humorous personality drew people around him wherever he may go. I argue that these are important reasons for their different degree of international fame.

There is no clear evidence about their friendship. Schildt (1991) ambiguously mentioned Scharoun as Aalto's 'old acquaintance'.<sup>140</sup> Maybe, it is a plausible guess that Aalto at least heard about Scharoun in the early 1930s, because he must have called on Siedlung Siemensstadt (1929-32) when he visited Gropius in Berlin in 1930 and 1931 and saw around Siedlung projects in the city.<sup>141</sup> The whole site plan of Siedlung Siemensstadt was based on Scharoun's idea, and Scharoun himself and Gropius with other architects designed respective buildings. However, there is no record of Aalto's contact with Scharoun when he was invited to Germany with other Finnish architects in 1943.<sup>142</sup> Because Scharoun was not part of the architectural establishment under the Nazis, he was unlikely to meet the official Finnish delegation. In the post-War period, Aalto and Scharoun both took part in the same architectural competitions, such as, the competition for the town hall of Marl in Germany

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<sup>139</sup> In addition, the language is very different, too.

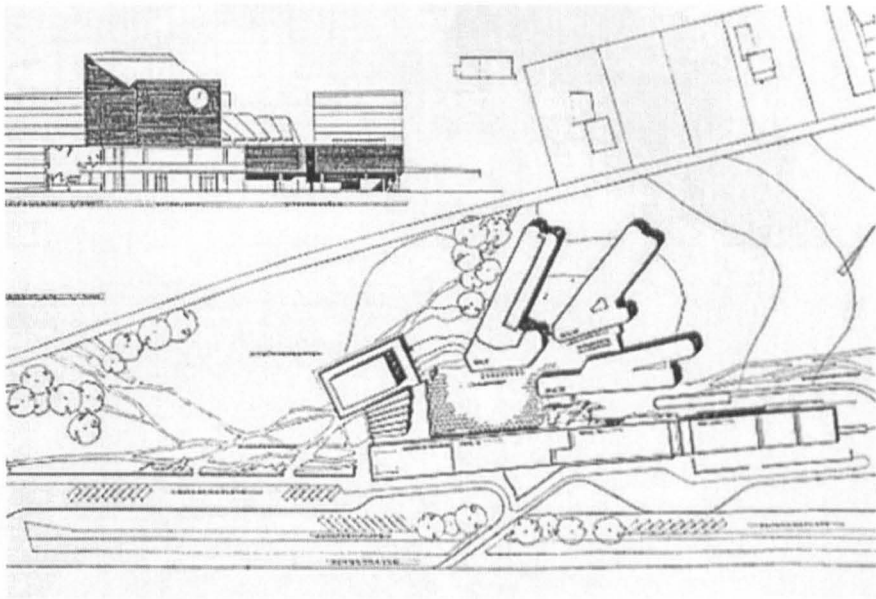
<sup>140</sup> Schildt (1991) *op. cit.* p. 188.

<sup>141</sup> Schildt, G. (1986) *op. cit.* p. 62. Particularly, Markelius's wife Viola remarked, 'In Germany we [Markeliuses and Aaltos] studied those famous Siedlungen'. Schildt, G. (1986) *op. cit.* p. 52. See 'Chapter 6.2. Alvar Aalto in Collective Housing'.

<sup>142</sup> The Finnish delegation was hosted officially by Albert Speer and guided by Ernst Neufert, both of whom were hated by Scharoun (and also by Häring) because they were 'Nazi to the core'. At that time, Scharoun had to keep his head down as a left-winger and a modernist. As a chairman of the Association of Finnish Architects, Aalto joined there, but it was reluctant because his country was an ally of the Nazis at this stage. In Germany, he was being entertained by the anti-modernists. See Schildt (1991) *op. cit.* pp. 67-71, and Blundell Jones, P. (1999) *op. cit.* p. 163.

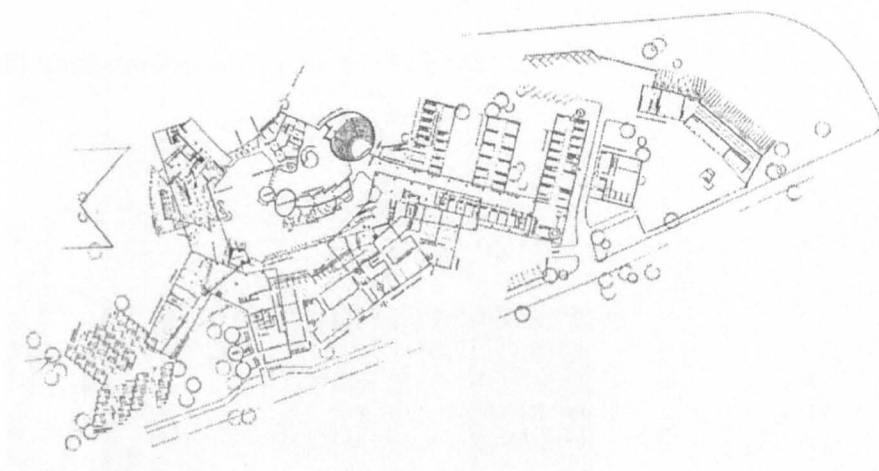
(1957)<sup>143</sup> and the competition for a theatre of Wolfsburg (1965). In the former, Scharoun won the second prize but Aalto was not placed, and in the latter, Scharoun won the first prize and Aalto the second – Scharoun’s design was executed. Through those activities and possibly through architectural publications, they must have borne in mind each other’s existence and similar architectural tendency. Particularly, Scharoun appeared to know about Aalto well and to have sympathy with his architecture. It can be verified in the fact that Scharoun, as a head of *Berlin Akademie der Künste*, invited Aalto and organised an Alvar Aalto Exhibition in Berlin in 1963.<sup>144</sup> Whether or not these indirect and occasional contacts of the two had had a mutual influence on them was not known, but what is clear is that they had developed their own architectural ideas respectively on the basis of their own soils even before they knew each other. And, they were very similar.

[Fig. 6-36] Competition for the town hall of Marl, 1957: Aalto’s entry, not placed (top) and Scharoun’s entry, second prize (bottom)

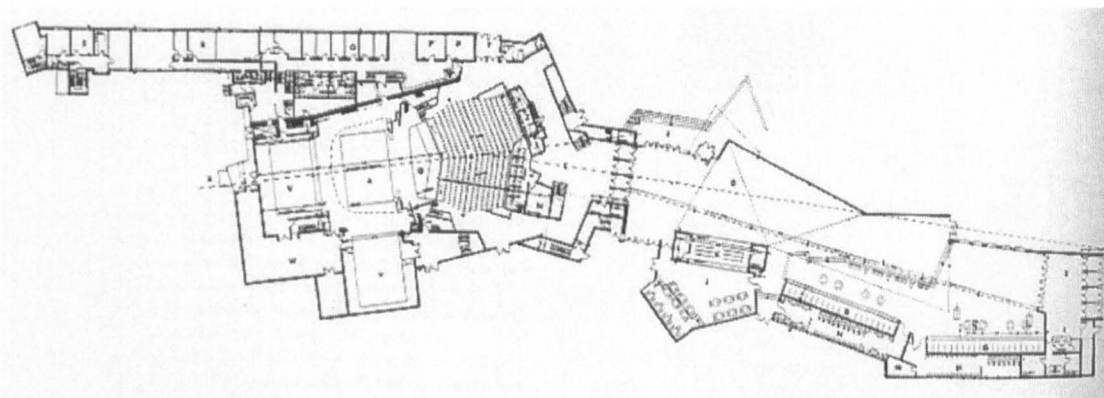
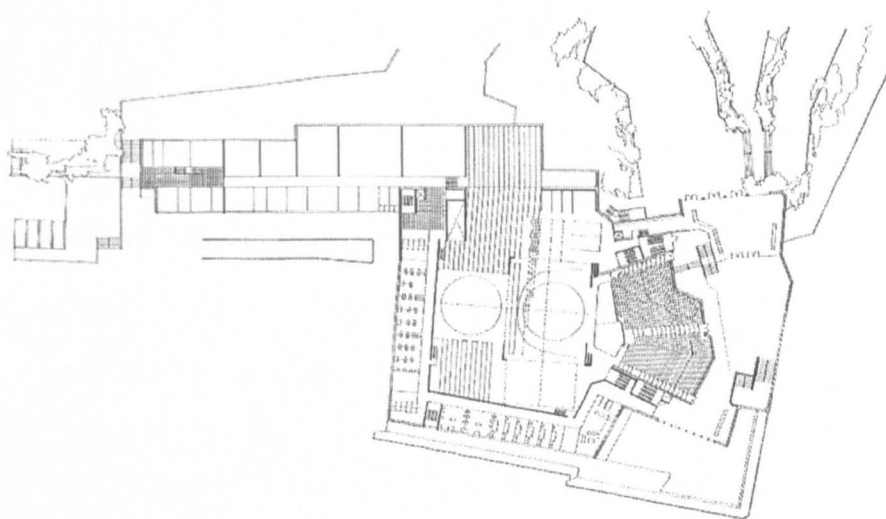


<sup>143</sup> On a comparative description about the competition entries, see Wilson, C. S. J. (1995) *The Other Tradition of Modern Architecture: The Uncompleted Project*, Academy Editions, London, pp. 80-86.

<sup>144</sup> According to Blundell Jones’s conversation with Margit Scharoun (1973), Aalto visited Scharoun’s personal home in Berlin and commented on the quality of his brandy!



[Fig. 6-37] Competition for a theatre of Wolfsburg, 1965: Aalto's entry, second prize (top) and Scharoun's entry, first prize (bottom)

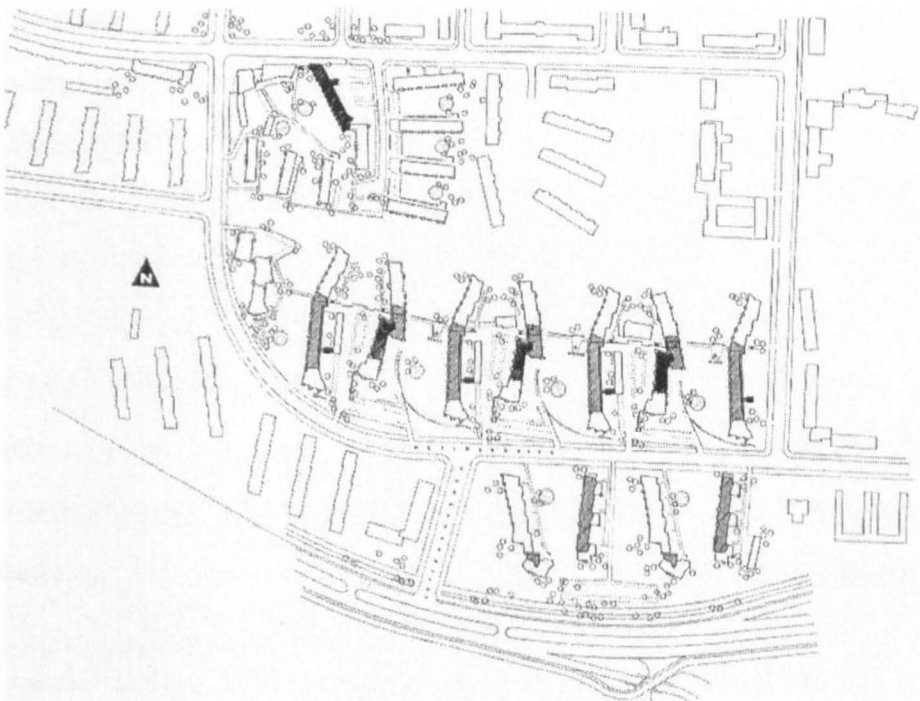


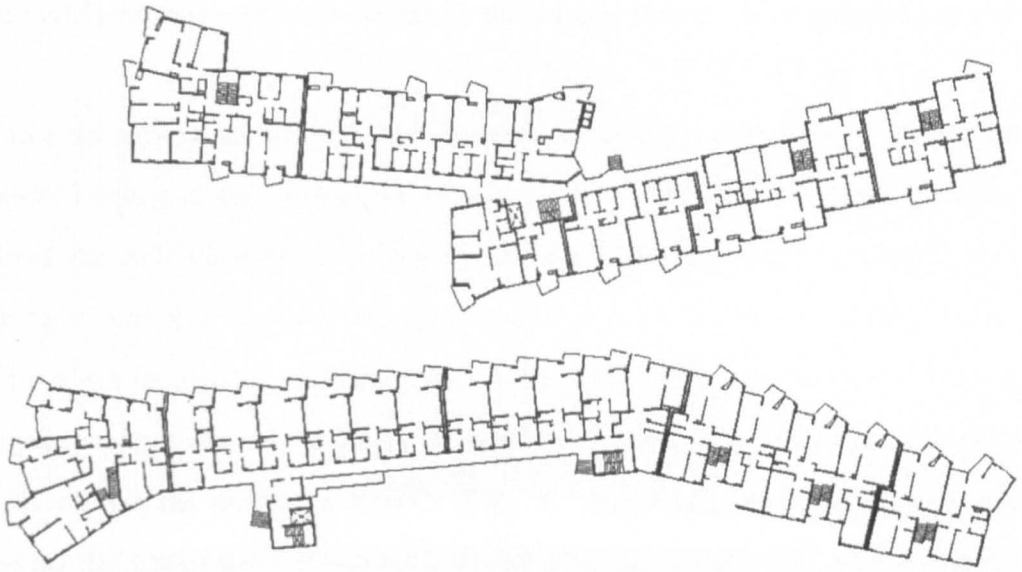
[Fig. 6-38] Siedlung Siemensstadt, 1929-32: site plan (left) and Scharoun's block (right)



- \* Site plan by Scharoun
- \* Each block designs by:
  - A: Scharoun
  - B: Gropius
  - C: Häring
  - D: Forbat
  - E: Henning
  - F: Bartning

[Fig. 6-39] Siedlung Charlottenburg-Nord, 1956-61: site plan (left) and block plan (right)





Among many building types, collective housing designs show their similarity best. No less than Aalto, Scharoun's housing designs also manifest very well the characteristics of the new individualism and *Existenzmaximum*. His Siedlung Siemensstadt in Berlin was a well-known work of the time when Frankfurt and Berlin developed large-scaled Siedlung projects extensively. And the housing development in Charlottenburg-Nord, built between 1956 and 1961 as an extension of Siedlung Siemensstadt, illustrates the possibility that even low-cost mass housing can contain diversified and abundant spaces. Nonetheless, his masterpiece of housing design must be 'Romeo and Juliet'. This housing of 'owner-occupier flats' was built in the suburb of Stuttgart between 1954 and 1959.<sup>145</sup> It is composed of two contrasting blocks named 'Romeo' and 'Juliet', which is the most outstanding feature of this housing. 'Romeo', a 19-storey high tower block, has a compact organisation with an L-shaped central corridor, whereas 'Juliet', a lower building with varying height of 5-, 8-, and 12-storey high, has a ring-shaped plan with an external gallery. Although the sexual metaphor that the two block types and their names suggest was not a starting point of this design,<sup>146</sup> it is true that they allude to the Shakespeare's play or evoke a choreographic image of male and female dancers. Blundell

<sup>145</sup> This housing was well described in Blundell Jones, P. (1995) *op. cit.* pp. 123-130.

<sup>146</sup> Concerning the behind story of the name, see *Ibid.* pp. 123-124.



Jones (1995) raised several other reasons for the building shapes: site, orientation and access.

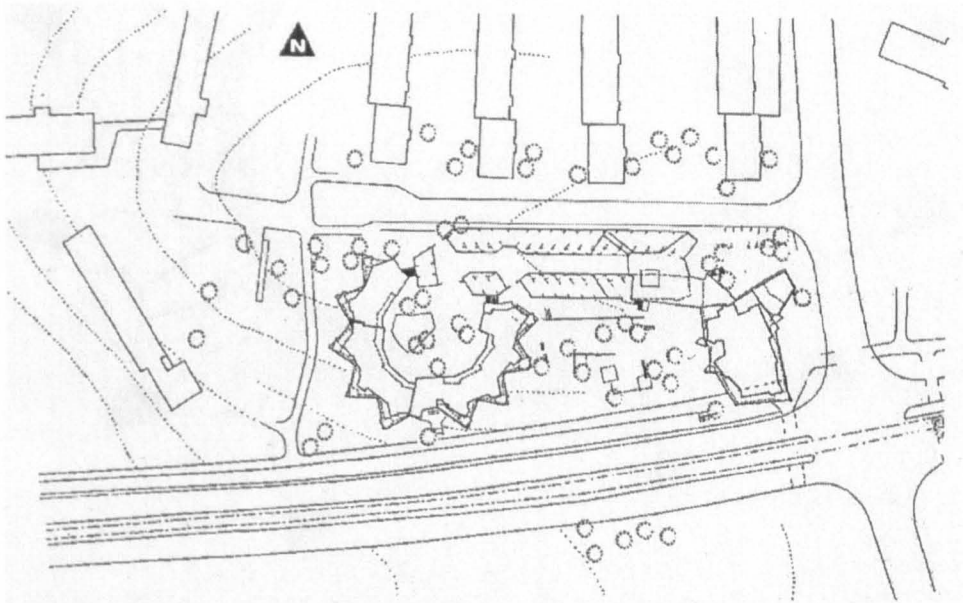
To make the most of the site, Scharoun designed the compact and high-rise 'Romeo' at the (southeast) corner of the narrow end, of which ground floor became a part of communal facilities located in the north side of the site, and the ring-shaped and lower 'Juliet' occupies the broader west side. Between the two blocks, he designed a richly landscaped communal garden, which faces to the south generously before the public facilities (shops and garages). This positioning is also influenced by the southward gentle slope. The organisation of flats directly reflects the orientation because 'flats in both blocks fan out from east to west following the path of the sun' and 'the end wall of Romeo and the open end of Juliet's ring face north.'<sup>147</sup> Also, the blocks chose to face the southern landscape over the motorway<sup>148</sup> rather than other housing blocks in the north side. Another thing that reveals Scharoun's consideration of the orientation is the varied height of the 'Juliet' block. As it were, he put as many flats as possible in a better side for orientation: the 12-storey part in the southeast side; the 8-storey part in the southwest; and the 5-storey one in the northwest. As mentioned above, 'Romeo' and 'Juliet' have contrasting access ways in each floor: central corridor type and external gallery type respectively, but both all show alternative solutions of long, dark or monotonous corridors in rationalist flats. Despite the central location, Romeo's corridor is short enough to be lit by the two sidelights (north and east) and the veranda beside the main staircase is a spot to enjoy a view. And the corridor width tapers from the main staircase and the lifts to the north end, which shows how deliberately Scharoun considered the density of inhabitants' movement. On the other hand, Juliet's external corridors are located on the concave side. This type shares the advantages of Aalto's typical fan shape block (e.g. the Neue Vahr apartment): shortening the circulation and letting each flat spread out to the sun and wider view.

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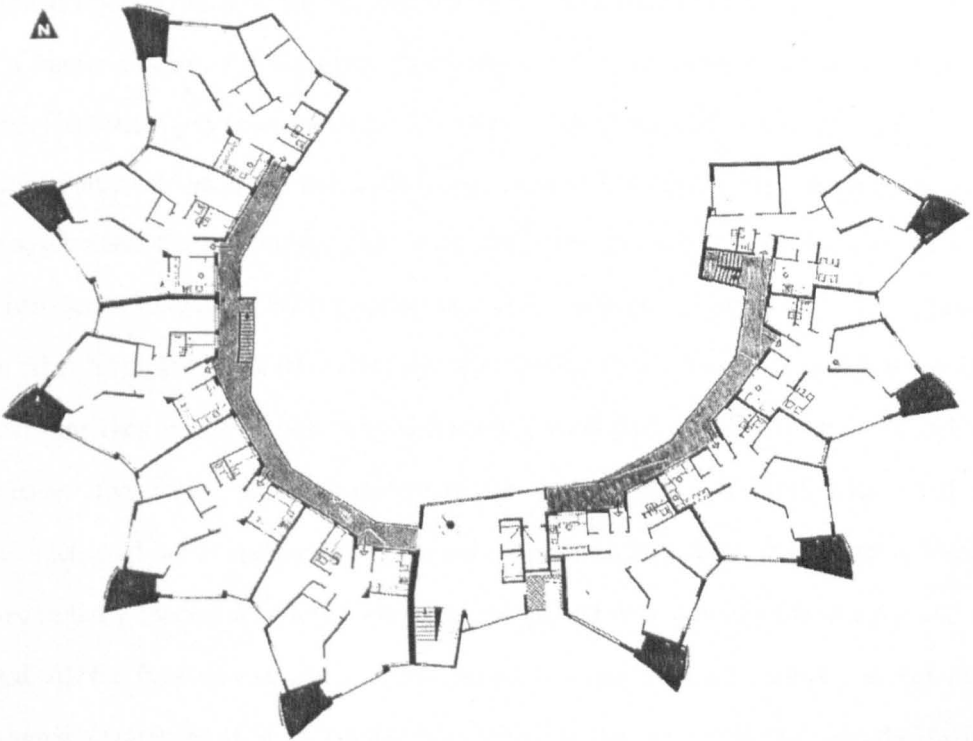
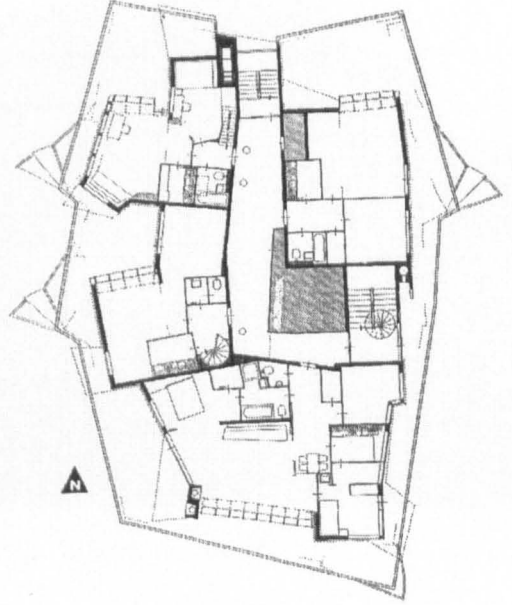
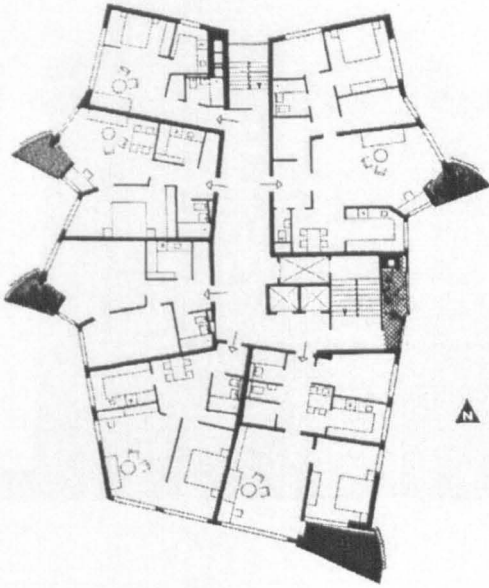
<sup>147</sup> *Ibid.* p. 124.

<sup>148</sup> From flats in lower storeys, the motorway is almost blocked by thickly planted trees.

[Fig. 6-40] 'Romeo and Juliet' apartment blocks in Stuttgart, 1954-59: aerial view (top) and site plan (bottom)



[Fig. 6-41] 'Romeo' block typical floor plan (top left), top floor plan (top right) and 'Juliet' block plan (bottom)



[Fig. 6-42] Romeo's roof and maisonette part (left) and Juliet's top storeys (right)



The typical floor of 'Romeo' has six different flats: the smallest is a studio flat and the largest is for a family of four. Among them, four larger ones have a different size and axe-shaped balcony. This balcony type was applied not only to 'Juliet' but also to his later housing designs in a similar manner. Each flat and each living room in it splay slightly towards the exterior, which symbolises the longing for light, view and open-air. And indeed one can get a varied and wider outlook from the interior space, and one's balcony cannot be seen from the others'. On the other hand, the block of 'Juliet' has nine similar flats. Exactly speaking, there are four variants: four flats in the highest part of the block (east part from the communal hall) are a little smaller; five flats in the lower part (west part from the hall) are a little larger; and ending flats of each part were somewhat transformed because they close the corridor. Each flat, arranged radially around the court, looks like a petal, and each balcony forms a pointed end of the petal. All the flats also assume a movement outside like those of 'Romeo', and no room of them shapes a rectangle except a kitchen. In addition to the articulation of plan, the distinction of each flat in each floor could be perceived through the different colour scheme, so that

inhabitants can tell easily their house from others in the exterior. The variation of flats is also found in a vertical level. Take 'Romeo' for example, it has shops in the ground floor and a restaurant in the first floor, while there are studio flats on the top floor. Moreover, there are also maisonette type flats in higher storeys of its west side (Fig. 6-75). These attempts of differentiation could be interpreted as openness to accommodate as various types of people as possible and as 'a more flexible consideration of individual needs', borrowing Aalto's word.

As Blundell Jones pointed out, Scharoun's starting point of the design was not the whole block but the respective flats,<sup>149</sup> and he avoided a meaningless repetition or a constraining grid system.<sup>150</sup> This is the 'organic approach' that Häring had kept maintaining, and of which idea Scharoun had shared along. And, he designated almost every centimetre to a special purpose and made the most of every skewed corner advantageously,<sup>151</sup> which is comparable with Aalto's module of 'one millimetre or less'.<sup>152</sup> As a result, each flat gains a very special spatial quality that conventional apartment units impossibly retain and that only considerably designed private houses can have. I argue that this value of a private house in collective housing is what Scharoun and Aalto commonly achieved in their designs. In Scharoun's case, it was possible ironically through the period of the Nazi regime. Because of regulations that forced architects to keep a conventional form in the exterior of a house, Scharoun could not but pour out his energy into internal spatial experiments. A series of private house designs during the period illustrate the abundance, creativeness, playfulness, and functionality of his spatial concept (Fig. 6-43),<sup>153</sup> of which qualities were entirely transferred to his collective housing designs.

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<sup>149</sup> *Ibid.* p. 121.

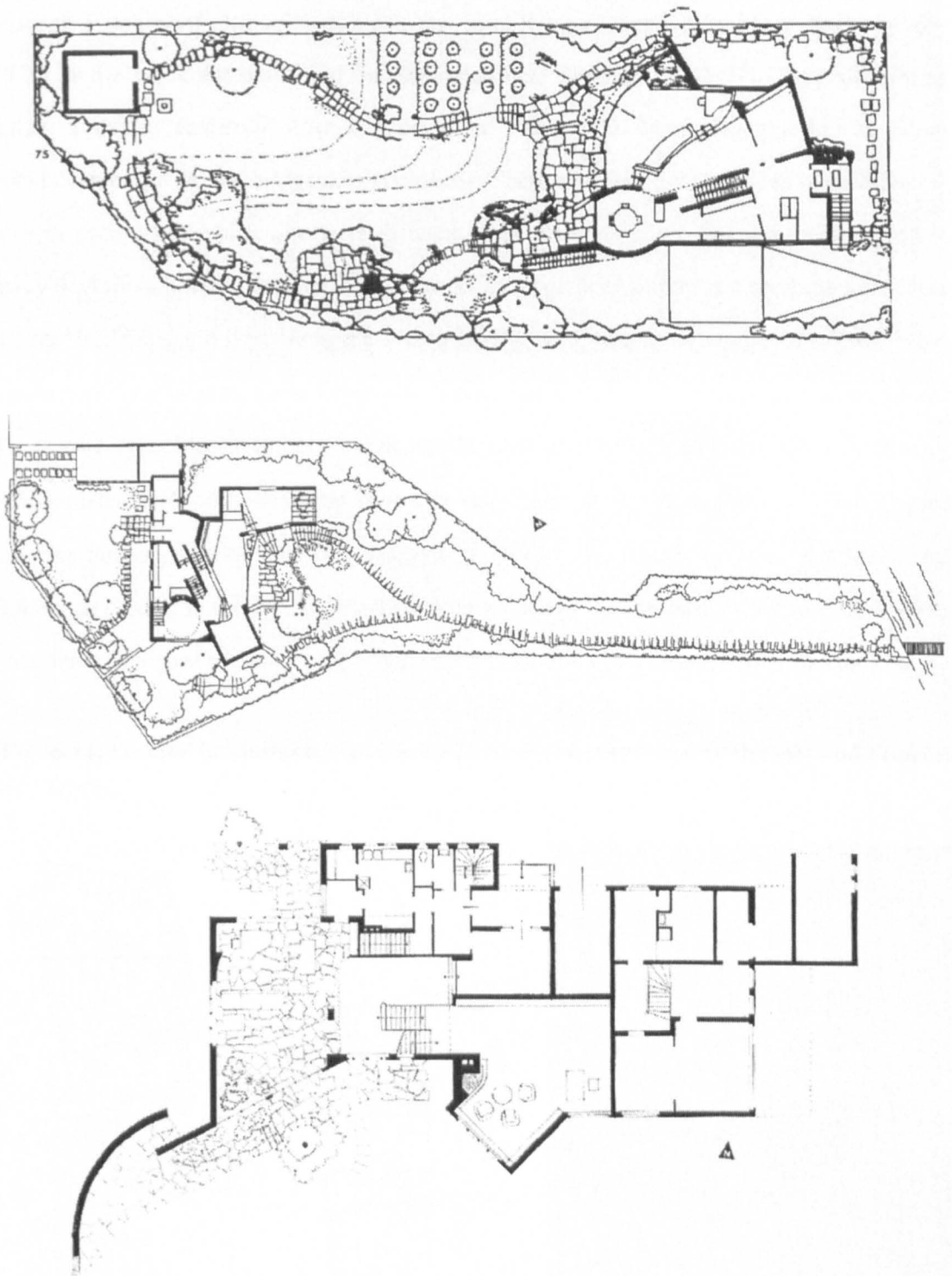
<sup>150</sup> Blundell Jones (1995) contrasts 'Romeo and Juliet' with Mies's Lake Shore Drive apartments. Concerning the latter, see 'Appendix # 1. Mass Housing Projects in Modern Architecture' and [Fig. 29].

<sup>151</sup> *Ibid.* p. 126.

<sup>152</sup> Wickberg, N. E. (1979) 'Finnish Architecture in the Early 1900's and Alvar Aalto'. In Mikkola, K. (ed.) *Alvar Aalto vs. The Modern Movement*, The 1<sup>st</sup> International Alvar Aalto Symposium, Jyväskylä, p. 60.

<sup>153</sup> Concerning his private house designs, see the chapter of 'Inner exile and the house as a vehicle for spatial experiment' in Blundell Jones, P. (1995) *op. cit.* pp. 68-93.

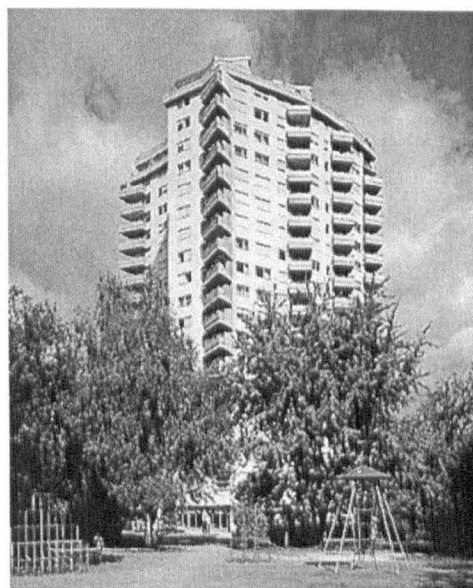
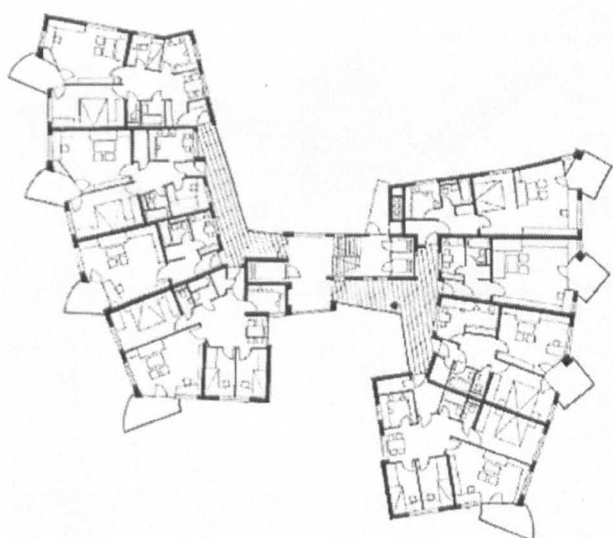
[Fig. 6-43] Private houses by Scharoun: Baensch House, 1935 (top), Moll House, 1936-37 (middle) and Scharf House, 1939 (bottom)



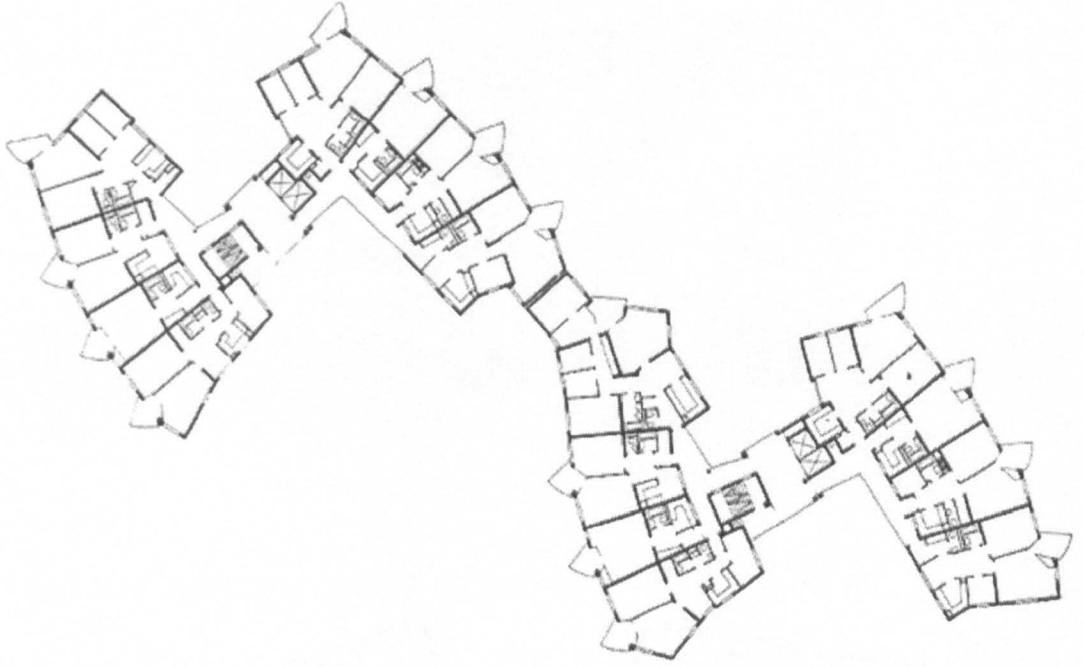


Scharoun's achievement in the design of 'Romeo and Juliet' brought him successive commissions of high-rise residential blocks. They are a block of flats named 'Salute' in Stuttgart-Fasanenhof (1961-63), a block on Zabel-Krüger-Damm in northern Berlin (1966-1970), and a block named 'Orpid' in Böblingen near Stuttgart (1971-73). They all have as unique a plan as 'Romeo and Juliet'. 'Salute' has a flapped Z-shape plan, and the circulation core occupies the central bridge area compactly. There are eight different flats in each floor – four in each wing, which illustrates different people's or family's different necessity as in many of Aalto's housing designs. The block on Zabel-Krüger-Damm is a combination of two 'Salute' buildings, but it varies in the overall height. And, 'Orpid' is composed of two linked blocks: one is a slightly curved high-rise block; and the other a tail-like five-storey block. These two type blocks loosely allude to 'Romeo and Juliet', and they also have very differentiated units and communal spaces in each floor. In the mean time, he also designed low-rise housing blocks. The one example is Rauher Kapf housing built in a suburb of Böblingen (1965). In the site, he designed three six-storey blocks, each of which contains four flats; three four-storey blocks, each of which contains three flats; and a two-storey building

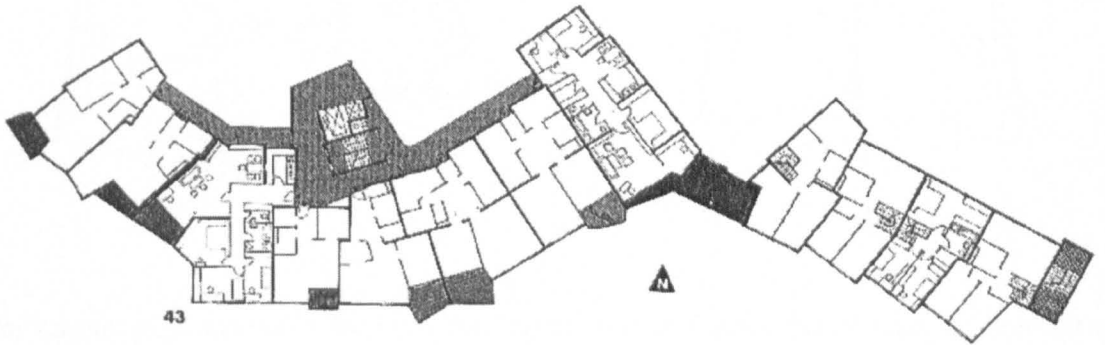
**[Fig. 6-44] 'Salute' in Stuttgart-Fasanenhof, 1961-63: typical floor plan (left) and exterior view (right)**



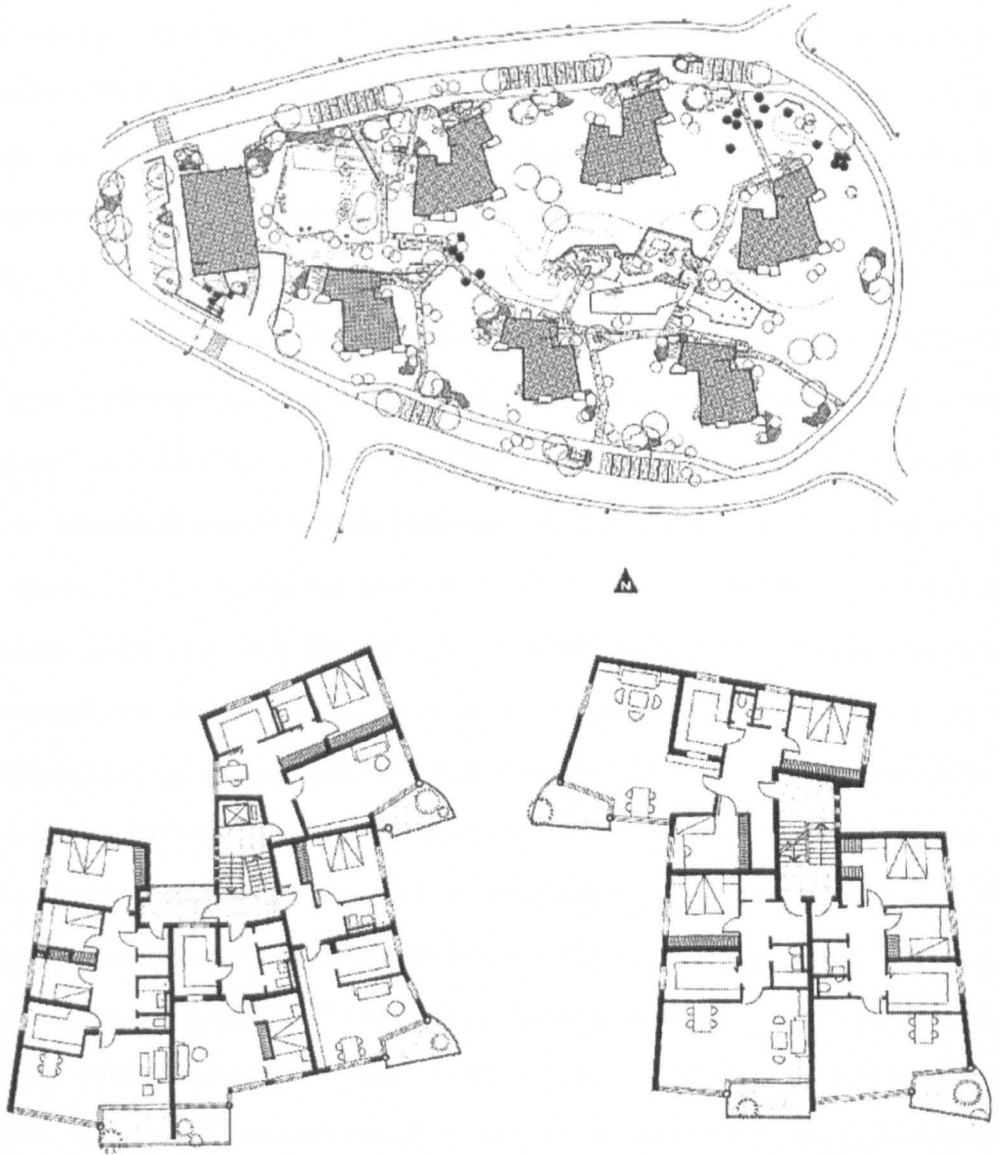
[Fig. 6-45] Apartment block on Zabel-Krüger-Damm in northern Berlin, 1966-1970



[Fig. 6-46] 'Orpid' in Böblingen near Stuttgart, 1971-73



[Fig. 6-47] Rauher Kapf housing in a suburb of Böblingen, 1965: site plan (top) and block plan (bottom)



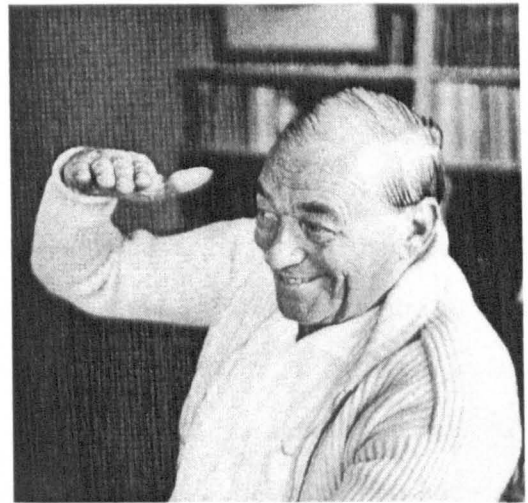
for various shops and public facilities. As a matter of course, Scharoun designed differentiated and unique flats in the blocks. In several senses, this housing plan is reminiscent of Aalto's HAKA housing competition entry (1940) (see Fig. 6-20). Both were a small-scaled development on a triangular park-like site, and two architects designed several hall-type low-rise blocks there. Particularly, the morphological affinity of the plans depicts the two

architects' rejection of imposed uniformity and their interest in individuality of each unit.

In this manner, Scharoun's collective housing has many features that make him different from rationalist architects: deep consideration of building sites, varied orientation of each flat for sunlight and view, different flats in type and size in each floor and in bottom and top, differentiated units like a private house, as many different outlooks as possible and maximum daylight from each flat, economic corridors, meaningful use of skewed angles, etc. These all were what Aalto shared with him. Besides the similarities, however, it is natural that there exist some differences between the two architects' design attitudes. Aalto seemed to have an obsession with a fan shape for an overall block plan as we can see in the plans of the *Neue Vahr*, the *Schönbühl*, and the *Gammelbacka housing*. Both enjoyed designing slightly splayed units towards a balcony side, but Scharoun did not have any special intention to compose a fan-shaped block plan with the units. So to speak, Aalto's work is more aesthetically conventional than that of Scharoun, more arty in composition and less ruthless in pursuit of principle to let things become what they want to be. As I mentioned above, Scharoun focused more on each flat rather than the whole block's form – more on a content-derived form. Having Häring, the strong proponent of 'organic building', as a mentor and a close friend, Scharoun naturally considered an internal function of space first. Yet, he also had an enough talent to adjust the outer form sophisticatedly. And Aalto was more sensitive to nature than Scharoun, while relatively free from a theoretical issue. In addition, very significantly, Aalto was more interested in materials than Scharoun. As for the building height, Aalto preferred low-rise housing because of its possibility of direct contact with nature and tried to avoid high-rise housing blocks if possible, whereas Scharoun did not seem to have a special preference. In fact, however, this issue was more related to the national situation rather than an individual architect. In the less populated and less industrialised Finland, high-rise housing did not look like an appropriate solution, and consideration of contact with nature should come first. But in Germany where cities were more populated, more industrialised, and more destroyed from the Wars, high-rise housing and large-scaled developments were very urgent.

What if Aalto had worked based upon Germany in the post-War period? What if Scharoun had designed collective housing in Finland and in many other countries? In conclusion, despite the several differences, the two architects' affinity is striking if we compare them with other contemporary architects. Tracing Scharoun's successful cases underpins more the validity of Aalto's approach in the housing design: new individualism and *Existenzmaximum*. Aren't they also needed in the 21<sup>st</sup> century collective housing design?

## **Chapter 7. Epilogue**



*You can't save the world, but you can set it an example.*  
Alvar Aalto (Schildt, 1991, p. 157)

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## Chapter 7.

### Epilogue

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I am sceptical of all verbal reform programmes – they have never led to new ideal societies. However, by advancing from one work to the next we can find the elements for building a new, more harmonious society. (Aalto, 1956)<sup>1</sup>

According to Schildt (1991), Aalto often repeated in his late years: “You can’t save the world, but you can set it an example.” Like many utopian modernists, he had also dreamed that a human being can develop a harmonious society in the world and that architecture could play a critical role in it, of course. In his early career, he had a vision of realising ‘a new Florence’ like that of Renaissance Italy in Jyväskylä, and around 1930, the vision was reformulated for a while under the influence of a Corbusian ideal.<sup>2</sup> However, the world was not so simple and could not be easily captured within one architect’s vision. Particularly after the 2<sup>nd</sup> World War, rationalism became more instrumentalised and capitalism came to control the whole social system. Behind many architectural projects, were speculators in real estate and greedy building economics that Aalto regarded as ‘the enemies of good architecture’.<sup>3</sup> Moreover, human nature itself is not always good. He was reluctant to admit, but could not help realising, that not only the world but also Finland or even a small town is hard to transform into an ideal society. His optimism was repressed by the experience of reality, but he did not go so far as to abandon his last hope; at least, he felt a right to spread his ambition within his own architectural projects. Even if modern society always reveals its schism between ideal and reality, the conflict itself cannot be a goal that an architect pursues in his or her design. It is

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<sup>1</sup> Schildt, G. (1991) *Alvar Aalto: The Mature Years*, Rizzoli, New York, p. 5.

<sup>2</sup> *Ibid.* p. 154.

<sup>3</sup> Aalto, A. (1957) ‘The Enemies of Good Architecture’, *Journal of the Royal Institute of British Architects*. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, pp. 202-206.



natural that an architect does his best to design a building or a city where people could enjoy a more harmonious life. Though his architecture cannot save the whole world, it could be a small example to indicate a better ideal.

This thesis reflects this point of view although it is another level of architectural production. Here, I did not attempt to 'save the world' (or to build 'an edifice of theory') but attempted to 'set it an example'. It does not mean that I did not deal with important discourses in architecture, but that I focused more on one building, digging into it as deeply as possible. It does not mean, either, that I deny 'a distinctive social system and set of cultural values' that architecture always retains,<sup>4</sup> but rather that I tried to provide an interpretation of one real building and the process of its creation, which could be the foundation of the system and values. A proper exploration of each architectural project and architect is what is needed at the most basic level of architectural writing, because they are the first sources to be historicised. And when each good example is accumulated, the world might become a little better even though not 'saved'.

Through this study of the Villa Mairea, I tried to re-discover the richness and diversity of modern architecture. The basic reason that the house could have such deep resonance might be, most of all, the firm collaboration between the architects and the clients. This made it possible for them to regard the house as an experimental laboratory, and allowed Aalto ceaseless experiments through the various versions of the design. During the design process, a number of ideas had come and gone, and this process let Aalto elaborate the ideas for the refined final Mairea. Among them, many are seemingly very contradictory concepts but Aalto tried to synthesise them. It became clearer that this architecture cannot be subordinated to one style or *-ism*. Even if one label could be raised, it is only one small facet of the architectural

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<sup>4</sup> Arnold, D. (2002) *Reading Architectural History*, Routledge, London, p. 1.

Architectural history is more than just the study of buildings. Architecture of the past and present remains an essential emblem of a distinctive social system and set of cultural values and as a result it has been the subject of study of a variety of disciplines.

whole. This Villa Mairea project suggests to us what we should think over in architectural design before imposing a theory on one building. Above all, 'use' has to be considered first because 'the meaning lies in the use.'<sup>5</sup> Perhaps, since it is a matter of course, architects frequently neglect this basic point and bury it under one image that they want to raise. More than that, however, Aalto did not forget to leave a certain room beyond practical 'use' in his design. As well as room for 'play', it might be that for 'time' in another sense, because the value of his architecture increases as time goes on in most cases. And, he always tried to have an intimate relationship with nature, that is to say, his built environment harmonised well with the natural environment. He could gain this result through several strategies, such as attaching great importance to the natural context and sensitive usage of natural materials. In addition, he made much of regional tradition along with modern technology of industrialised society. This might be one of essential factors that are needed for the 'glocal architecture'<sup>6</sup> in this century.

However, these values are not limited to the Villa Mairea alone but could be found here and there in many other architectural projects by many other architects. (And they are what contemporary architects also have to pursue.) This house is just one case among many that illustrate abundant meanings in modern architecture. 'By advancing from one work to the next', we can excavate more treasure of meaning in architecture, and it will lay more steadfast foundation for architectural historiography. With this thesis, I put one small stone on the foundation.

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<sup>5</sup> This Wittgenstein's utterance was about language, but could also be applicable to architecture. Cited in Wilson, C. S. J. (1995) *The Other Tradition of Modern Architecture: The Uncompleted Project*, Academy Editions, London, p. 81, and (2000) *Architectural Reflections*, Manchester University Press, Manchester and New York, pp. 58-59.

<sup>6</sup> Liangyong Wu abbreviated Koichi Nagashima's paper title 'Glocal Approach Towards Architecture of the Future' (UIA Work Programme, 1998) to this term in his paper for Beijing UIA 1999: Wu, L. (2000) 'Architecture in the new millennium', *The Journal of Architecture*, vol. 5, Spring 2000, pp. 9-19.

## ■ Appendix

### # 1. Mass Housing Projects in Modern Architecture

- (1) Le Corbusier and '*Machine à habiter*'
- (2) Das Neue Frankfurt and *Existenzminimum*
- (3) Housing Developments in Post-War Period

### # 2. List and Source of Illustrations

### # 3. Bibliography

### # 4. Published Journal Article on Villa Mairea

'Villa Mairea, The Lost Memories'

### # 5. Refereed Conference Papers on Villa Mairea

- (1) 'Fusion of Architecture, Art and Life: Red House and Villa Mairea'
- (2) 'Modern Application of Primitivism: Alvar Aalto and Villa Mairea' (abstract)

### # 6. Tables of Villa Mairea Drawings and Computer Models

- (1) Table 1: Initial Sketches with Countless Ideas, Early 1938
- (2) Table 2: Drawings in Each Stage, 1938
- (3) Table 3: Computer 3D Models in Each Stage

### # 7. CD Containing Computer Models of Villa Mairea Early Versions

# Mass Housing Projects in Modern Architecture

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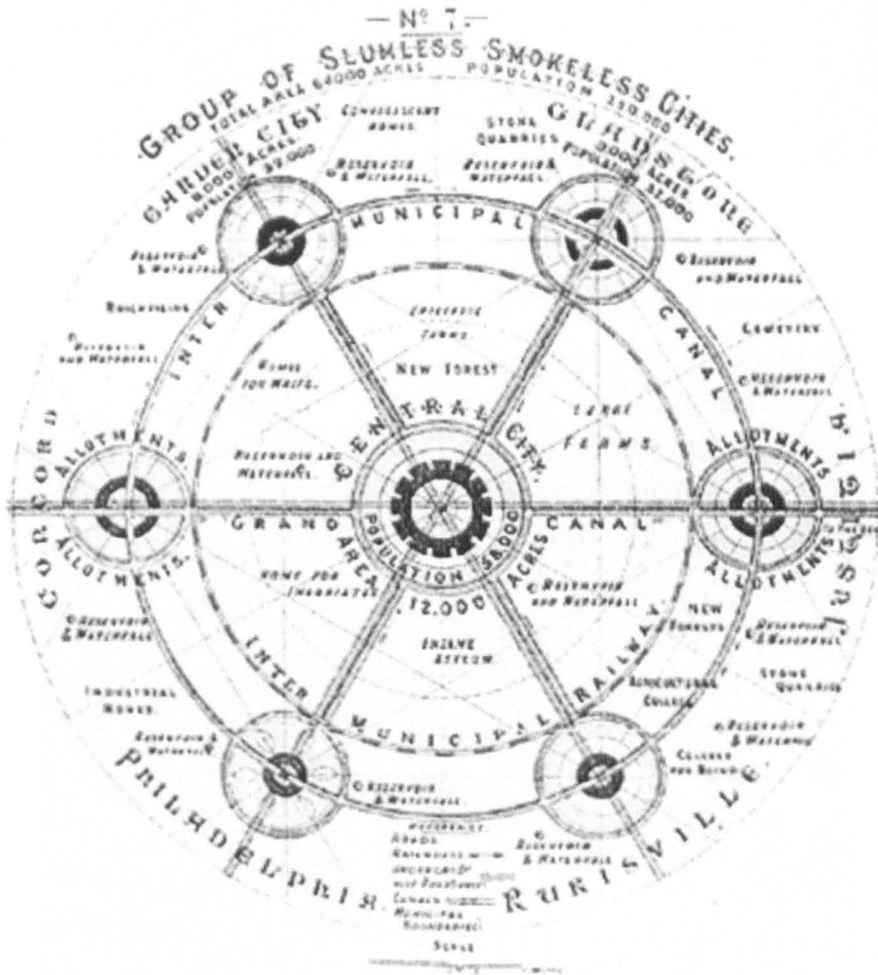
Hyon-Sob Kim

Modern society was based on technological developments in every field. Since the Industrial Revolution in the late 18th century, massive machine production of goods in a factory had changed not only the products themselves but also every aspect of human life. Human beings' built environments were no exception, and the transformation of the built environment might even be the most typical factor to illustrate modern society. The rapid shift from agriculture to industrial economy had brought about a huge migration of rural populations to the industrial cities, which entailed the deterioration of living conditions and demanded a large development of urban housing. This situation was enhanced by the First World War (1914-18) because of the war industry. Meanwhile, there had been various suggestions and plans to improve urban living conditions around 1900, like the concept of 'Garden City' (1898) by Ebenezer Howard (1850-1928), the idea of '*Une Cité Industrielle*' (1901-17) by Tony Garnier (1869-1948), and the extension plan of south Amsterdam (1902-20) by Hendrik Petrus Berlage (1856-1934). These plans could be regarded as precedents that show diverse attempts to solve newly occurring problems in modern cities towards an ideal society, and they became a stepping stone for the modern architectural movement still to come.

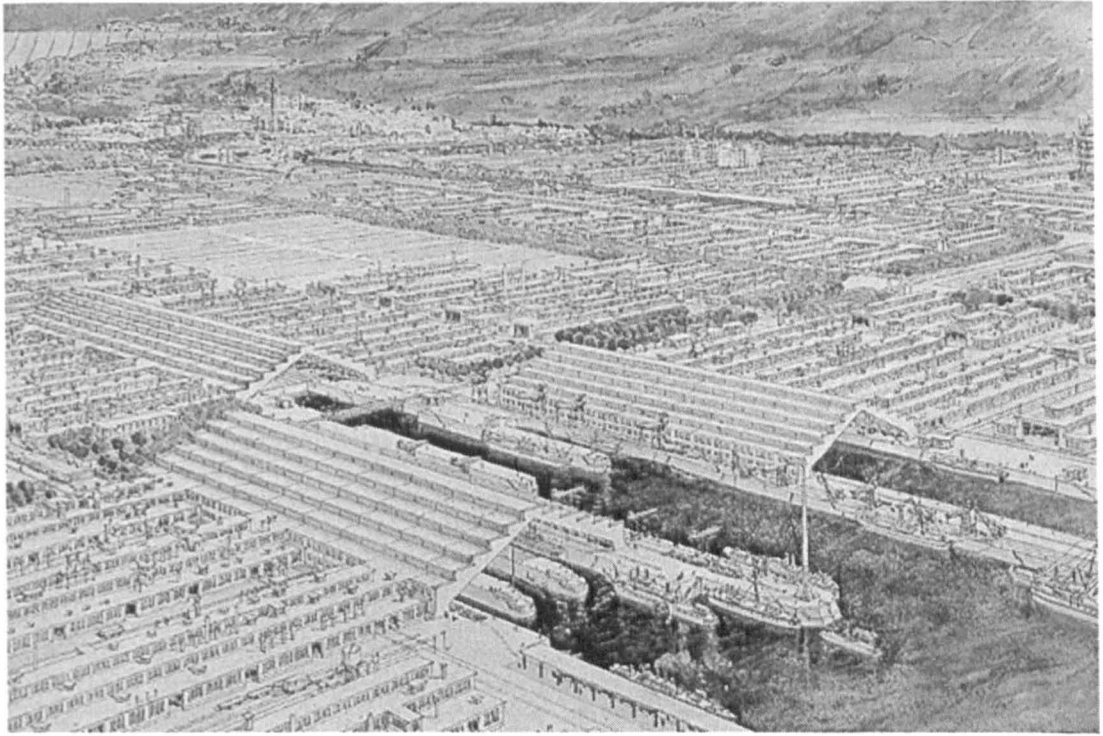
Probably, the most influential concepts in modern mass housing projects might be Le Corbusier's '*machine à habiter*' (machine for living in) since 1923 and German modernists', particularly Ernst May's '*Wohnung für das Existenzminimum*' (minimum subsistence dwelling) around 1929. In both cases, the architects emphasise the importance of standardised mass produced housing in their statements, but the nuances and the social contexts are quite different. If Le Corbusier's attitude to mass-production tended more to the *Zeitgeist* and to machine aesthetics with a poetic sense, May's housing concerns as Frankfurt city architect

were more practical and very pressing owing to the contemporary housing shortage. The two men shared a basic belief in a rational planning and, in fact, influenced each other to a degree. Moreover, they played an important role on each side in forming the ‘modern movement’ during the interim period between the two World Wars, especially with the CIAM, which spread the doctrines world-wide – and in many cases superficially. I will portray these concepts respectively here, and a description of the post-war housing situation will follow.

[Fig. 1] ‘Garden City’ by Ebenezer Howard, 1898



[Fig. 2] *'Une Cité Industrielle'* by Tony Garnier, 1901-17



[Fig. 3] Extension plan of south Amsterdam by Hendrik Petrus Berlage, 1902-20



## (1) Le Corbusier and '*Machine à habiter*'

A great epoch has begun.  
There exists a new spirit. ...  
We must create the mass-production spirit.  
The spirit of constructing mass-production houses.  
The spirit of living in mass-production houses.  
The spirit of conceiving mass-production houses.  
If we eliminate from our hearts and minds all dead concepts ... we shall arrive at the "House-Machine," the mass-production house, healthy (and morally so too) and beautiful ...  
Beautiful also with all the animation that the artist's sensibility can add to severe and pure functioning elements.  
(Le Corbusier, 1923)<sup>5</sup>

Le Corbusier's mass housing idea might be traced back to his Dom-ino system (1914-15), which he devised for an immediate reconstruction of shattered housing from the war. As is well known, the Maison Dom-ino is a concrete skeleton composed of columns and three slabs that are connected by stairs. Mass-produced doors and windows might be installed in the skeleton and the walls could be filled with rubble and bricks by unskilled workers.<sup>6</sup> His 'Five Points of a New Architecture' – *pilotis, plan libre, façade libre, fenêtres en longueur, and toit-jardin* – were manifested in his houses of 1920s and had already been embryonic in it. As he heard from August Perret, he could 'have the Art' by 'holding on to the carcass.'<sup>7</sup> The fact that the system can be put together in various ways confirmed its possibility of mass production. One of his composition sketches of Dom-ino houses formed a U-shaped plan, the enclosed court being used as a public space. Although the war did not end as soon as Le

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<sup>5</sup> Le Corbusier (1923) *Vers une Architecture*, Editions Cres, Paris, English edition translated by John Rodker (1927) as *Towards a New Architecture* reprinted in 1989 by Architectural Press, London, p. 227.

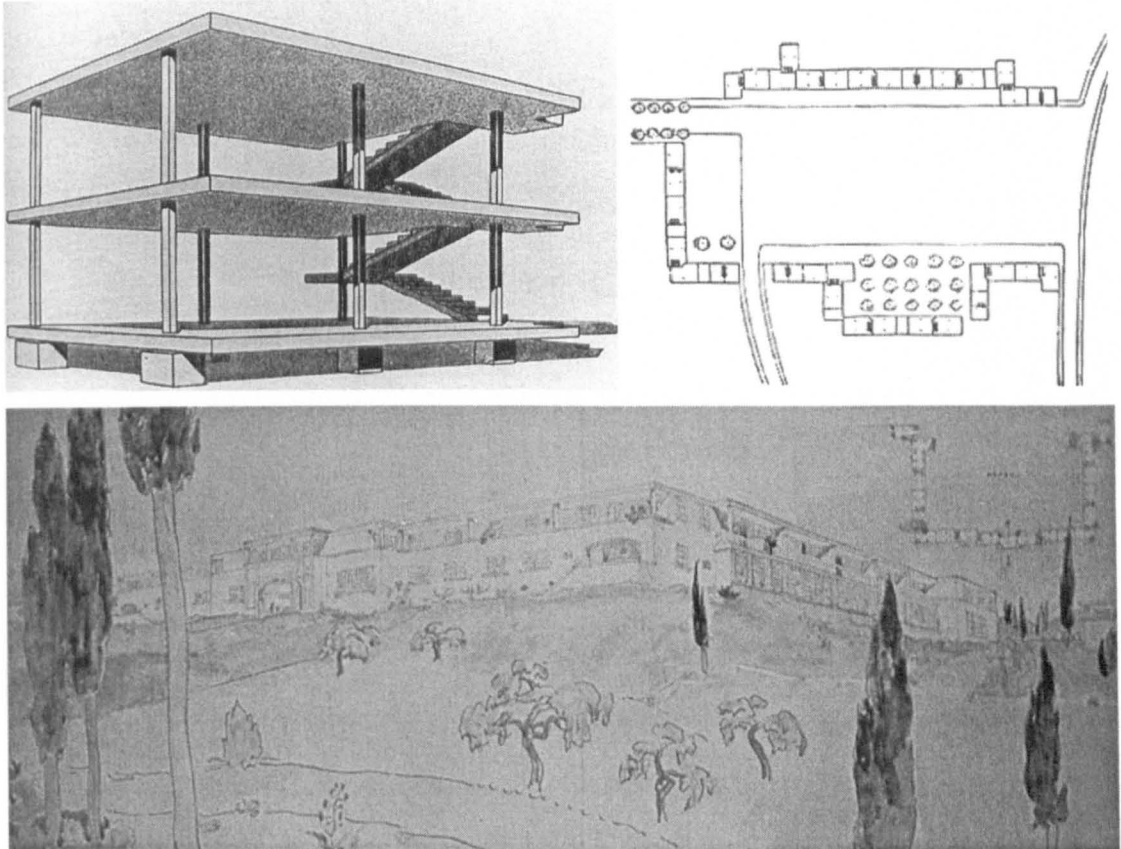
<sup>6</sup> Le Corbusier (1927) *op. cit.* p. 230.

<sup>7</sup> Jeanneret (early Le Corbusier) wrote down in Viollet-le-Duc's [Dictionnaire] that he bought: "Now, Auguste Perret has told me, *hold on to the carcass*, and you will have the Art." Turner, p. (1977) 'Romanticism, Rationalism, and the Domino System'. In: Walden, R. (ed.) (1977) *The OPEN HAND Essays on Le Corbusier*, MIT Press, Cambridge, MA, p. 24.



Corbusier expected and he could not get any chance to apply his Dom-ino idea to a large regeneration project, it became a basic grammar of his later house designs.

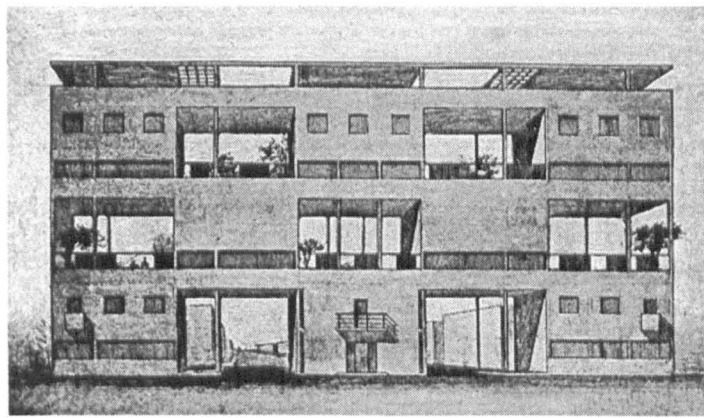
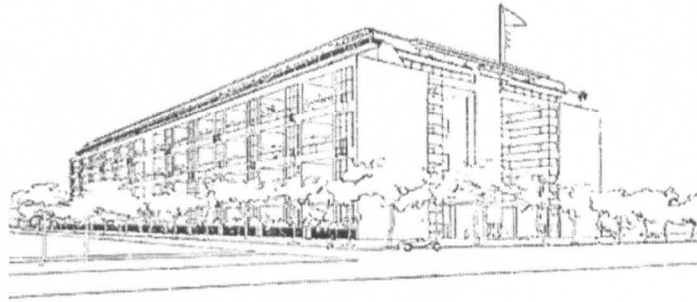
[Fig. 4] Dom-ino system, 1914-15



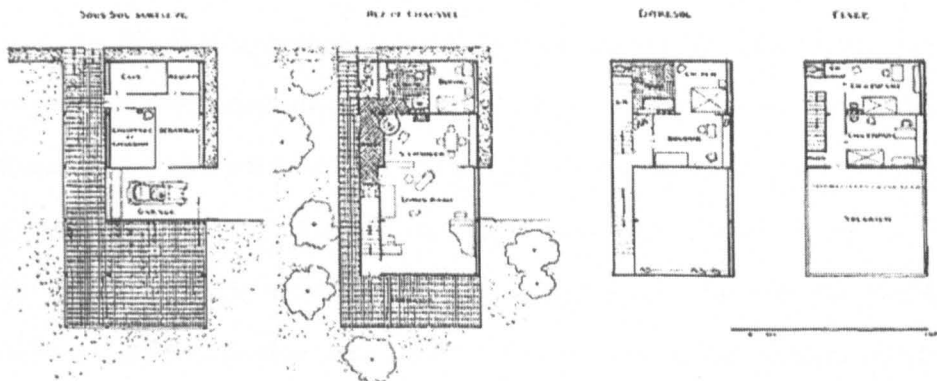
The architect's idea of 'mass-production houses' was strongly asserted in his influential book [Vers une Architecture] (first edition in 1923), much of which had originally been published as articles in the magazine [L'Esprit Nouveau] since 1920. For him, mass-produced housing was the only solution adapted to 'the new epoch' and 'the new spirit' like automobiles and aeroplanes, and old concepts of house and old constructional methods had to be thrown away. If so, he believed, aesthetic quality could be gained 'automatically' with the module and good proportion. In the book, he illustrated a range of mass-production house types: single house or row houses with the Dom-ino system; flat roofed house or vaulted roof house (Monol house,

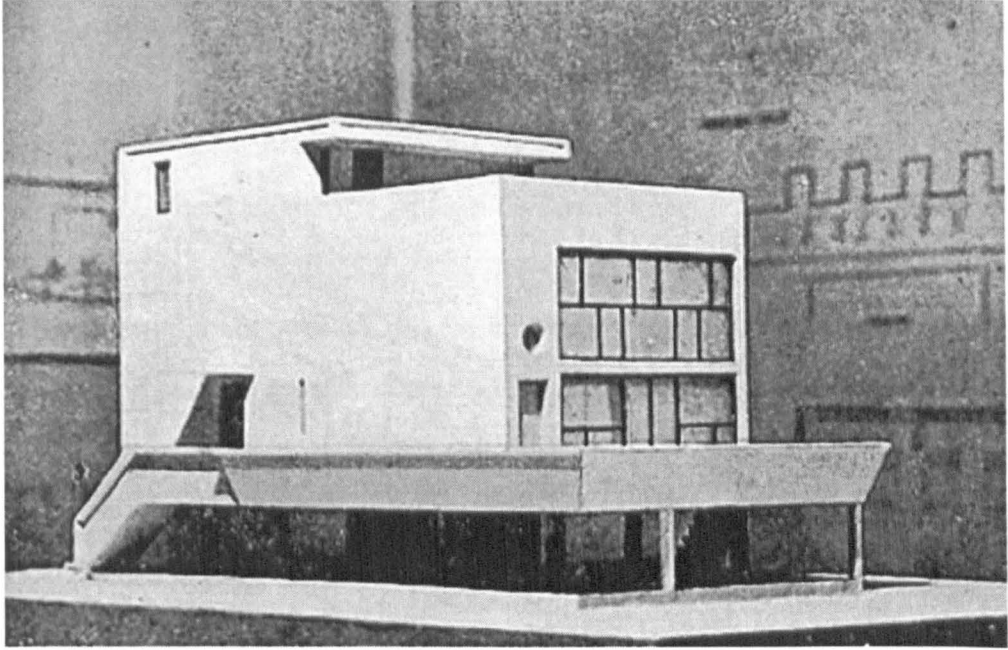
1919); middle-class house or working-class house; Garden City house or seaside villa; and multi-story housing block or terrace house for university student accommodation.

[Fig. 5] 'FREEHOLD MAISONNETTES' (top) and 'NEW DWELLINGS AT BORDEAUX' (bottom) in [Towards a New Architecture]



[Fig. 6] Maison Citrohan, 1921-22





Among the examples, the Maison Citrohan (1921-22) symbolises the concept, *machine à habiter* most directly as one sees that the name referred to the motorcar brand, Citroën. It implies that a house can be mass-produced with Taylorised methods like an automobile. A house should have a compact but efficient space and optimised openings as in ‘railway carriages and saloon-cars’. Corbusier argues in the caption of the Maison Citrohan that ‘we must look upon the house as a machine for living in or as a tool’ and ‘one can be proud of having a house as serviceable as a typewriter’.<sup>8</sup> The house is a white box and has a flat roof with a solarium. It has a double-height living room inside and a huge factory or studio window on one façade. One version of it (1922) has a raised terrace on pilotis, of which the tilted parapet and whole formation put one in mind of an ocean liner. The floating image suggests that the house is not bound to one special place but can be adapted anywhere like the moving machines. And, the Maison Citrohan was ‘a conflation of earlier Le Corbusier concerns’ as Curtis (1982) described. Not only ocean liners, it echoes the Mediterranean houses with white skins; Adolf Loos’s unadorned masses; the concrete houses with a flat roof

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<sup>8</sup> Le Corbusier (1927) *op. cit.* pp. 240-241.

in Garnier's industrial city plan; the studio houses in Paris with huge windows; the double-height hall of a café in Paris that inspired Corbusier; and the like.<sup>9</sup> This Citrohan idea became a sample to which he had frequently referred for house designs during 1920s, and it provided a basic unit for 'immeubles villas' in the *Ville Contemporaine*.

Le Corbusier's concept of mass housing could be understood best in the context of his urban planning. His proposal for the *Ville Contemporaine* – 'A Contemporary City for Three Million Inhabitants' – was exhibited at the *Salon d'Automne* in Paris in 1922 and published with detailed explanation in [*Urbanisme*] in 1925. The plan was devised to solve many problems of industrialised cities such as housing shortage, overpopulation and traffic congestion. The city is rectangular as a whole, and the plan was based on a rigid grid system with horizontal, longitudinal and diagonal axes. All functions of the city – transportation, management, habitation and leisure – occupy their own zones, and industrial quarters and garden cities are located off the rectangular central town. As Corbusier clarified in the first sentence of the book,<sup>10</sup> the city was regarded as 'a tool' or a machine as a building was. He attempted to bulldoze 'the pack-donkey's way' away and build a rationalised utopian city, which is a materialised version of Descartes' architectural metaphor in the 17<sup>th</sup> century.<sup>11</sup> There are three types of inhabitants in the plan: '(a) Citizens ... who work and live in it'; '(b) Suburban dwellers ... who work in the outer industrial zone and who do not come into the city'; '(c) The mixed sort ... who work in the business parts of the city but bring up their families in garden

<sup>9</sup> Curtis, W. J. R. (1996) *Modern Architecture Since 1900*, Phaidon, London, p. 171.

<sup>10</sup> Le Corbusier (1987) *The City of To-Morrow and Its Planning*, Dover, New York, p. xxi.

<sup>11</sup> Descartes, R. (1968) *Discourse on Method and the Meditations*, Penguin Books, London, p. 35.

So it is that one sees that buildings undertaken and completed by a single architect are usually more beautiful and better ordered than those that several architects have tried to put into shape, making use of old walls which were built for other purposes. So it is that these old cities which, originally only villages, have become, through the passage of time, great towns, are usually so badly proportioned in comparison with those orderly towns which an engineer designs at will on some plain that, although the buildings, taken separately, often display as much art as those of the planned towns or even more, nevertheless, seeing how they are placed, with a big one here, a small one there, and how they cause the streets to bend and to be at different levels, one has the impression that they are more the product of chance than that of a human will operating according to reason.

cities',<sup>12</sup> and two types of residential blocks in the city or the industrial quarters: *à redent* blocks and *immeubles villas*. The *à redent* blocks – 'set-back' type – are 'the luxury dwellings', which are surrounding the central sky-scraper area and surrounded by the districts of the *immeubles villas* in the four corners. The blocks are composed of 'six levels of maisonettes' and make twelve-storey buildings. In the sites, there are garages for all the flats, car-parking areas, and parks all over the place. Therefore, as much as 85 per cent of the site becomes open space according to Corbusier's explanation.<sup>13</sup> The *immeubles villas* – of 'cellular' perimeter blocks – are 'really so many Citrohans stacked up around courtyards into communal units that looked like large filing cabinets'.<sup>14</sup> Each unit has its own 'hanging garden' and there are the solarium and running track on the roof of the blocks. The open spaces of this area are about 48 per cent of the whole site – comparatively smaller than those of *à redent* block area – but, counting the 'hanging gardens', they increase to 90 per cent. Corbusier eagerly compared the density of population in his plan (both districts of *à redent* blocks and *immeubles villas*) – 120 persons to the acre – with that of contemporary Paris – 145 persons to the acre. That is to say, what he argues is that almost the same number of people in a same area can enjoy high quality life with the astonishingly large area of open spaces, including broad motorways and various leisure facilities set in green spaces. Of course, it is possible only through a prophetic master planner's utopian design of a city with mass-production housing blocks and skyscrapers. This ideal design was partly applied to the proposal of the Plan Voisin – Voisin was another car manufacturer – in 1925, which intended to regenerate packed old urban fabric in the centre of Paris. But as Curtis (1986) properly pointed out, 'the surgery of the Plan Voisin was so drastic that it might well have killed the urban body (and the urban spirit) that it claimed to be saving'.<sup>15</sup>

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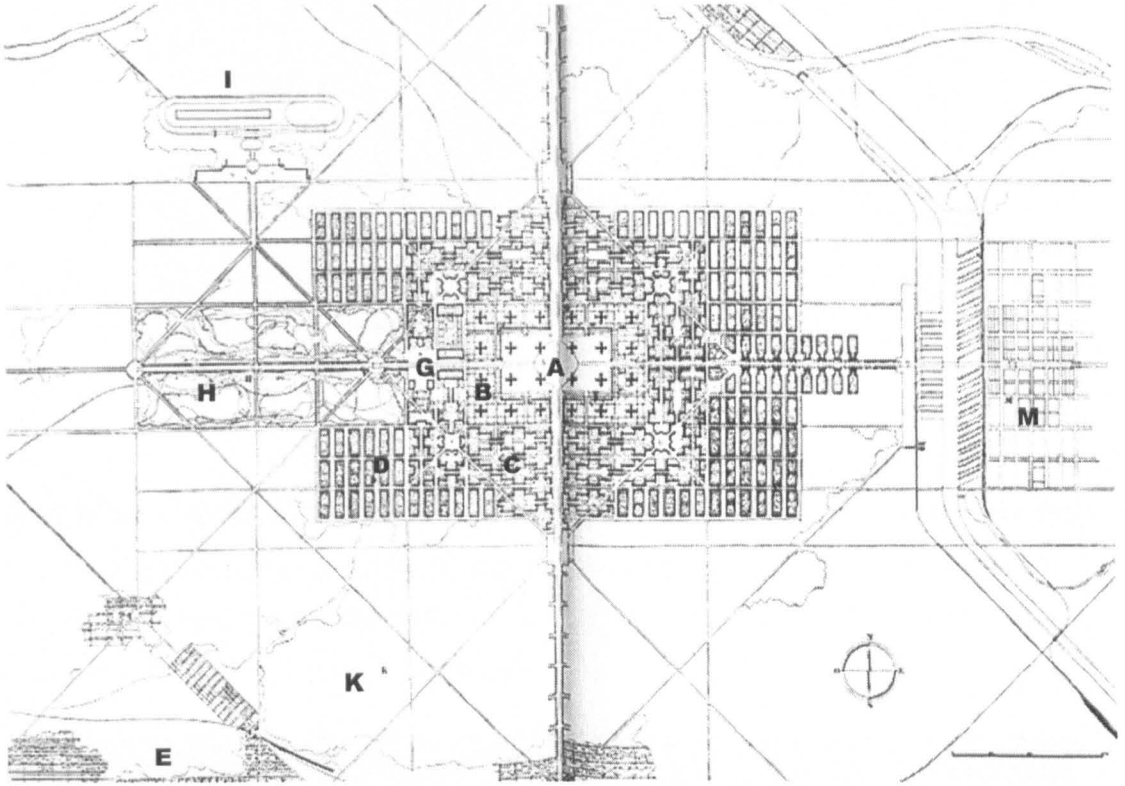
<sup>12</sup> Le Corbusier (1987) *op. cit.* p. 166.

<sup>13</sup> *Ibid.* p. 292.

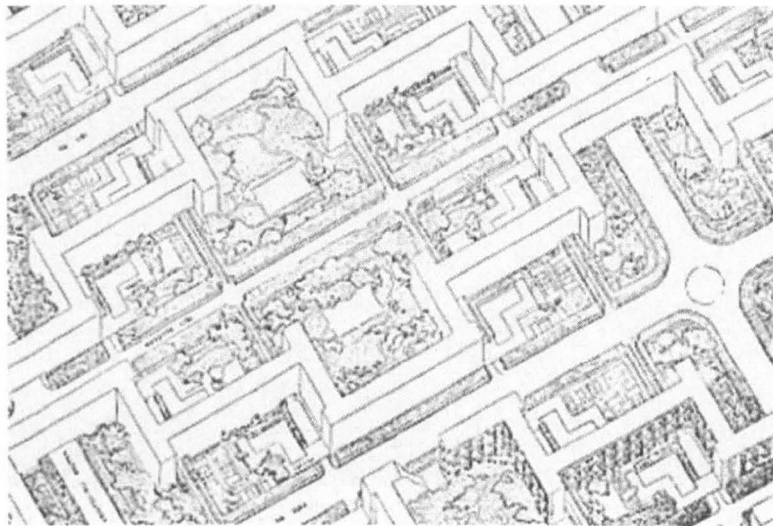
<sup>14</sup> Curtis, W. J. R. (1986) *Le Corbusier: Ideas and Forms*, Phaidon, London, p. 61.

<sup>15</sup> *Ibid.* p. 65.

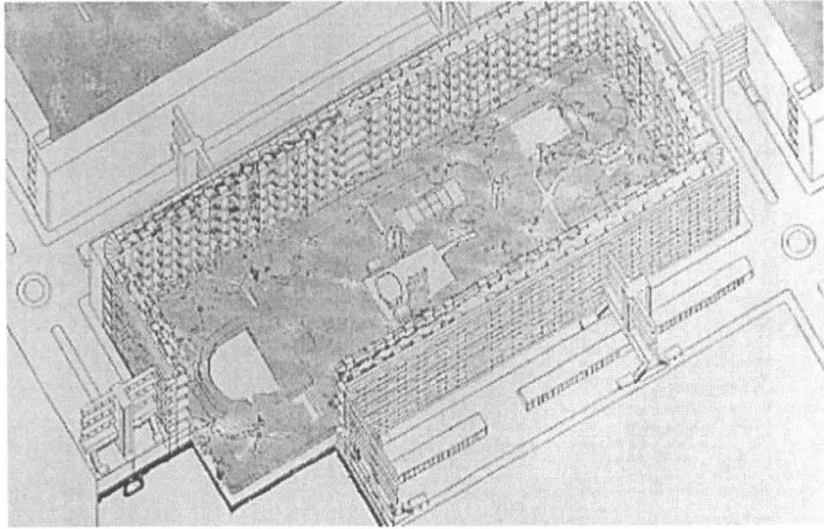
[Fig. 7] Ville Contemporaine, 1922: A. Station/ B. Sky-scraper/ C. Housing blocks with 'set-backs'/ D. Housing blocks on the 'cellular' system/ E. Garden cities/ G. Public Services/ H. Park/ I. Sports/ K. Protected zone/ M. Warehouses, Industrial city, Goods station



[Fig. 8] *à redent* blocks or 'set-back' type blocks (top) and *immeubles villas* or 'cellular' perimeter blocks (bottom)







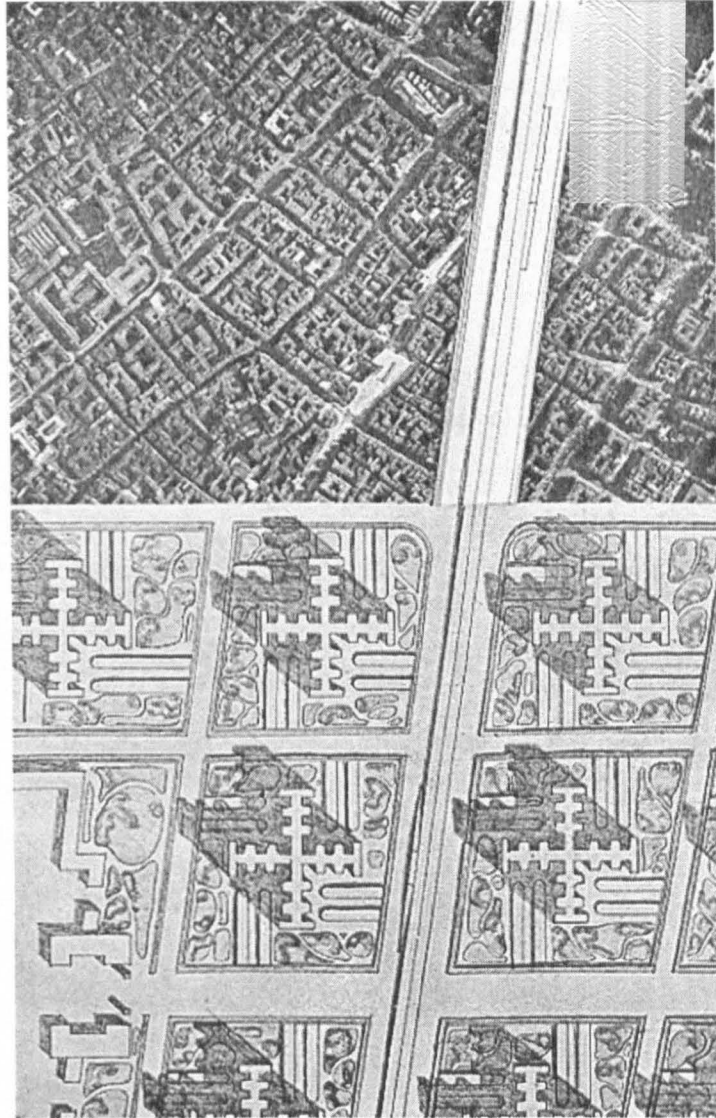
**[Fig. 9] Plan Voisin, 1925: model (top) and comparison between old and new (bottom)**

Here is the solution proposed by the “Voisin” Scheme. Here are the districts which it is proposed to demolish and those which it is suggested should be built in their place. Both plans are to the same scale.<sup>16</sup>



<sup>16</sup> Le Corbusier (1987) *op. cit.* p. 289.





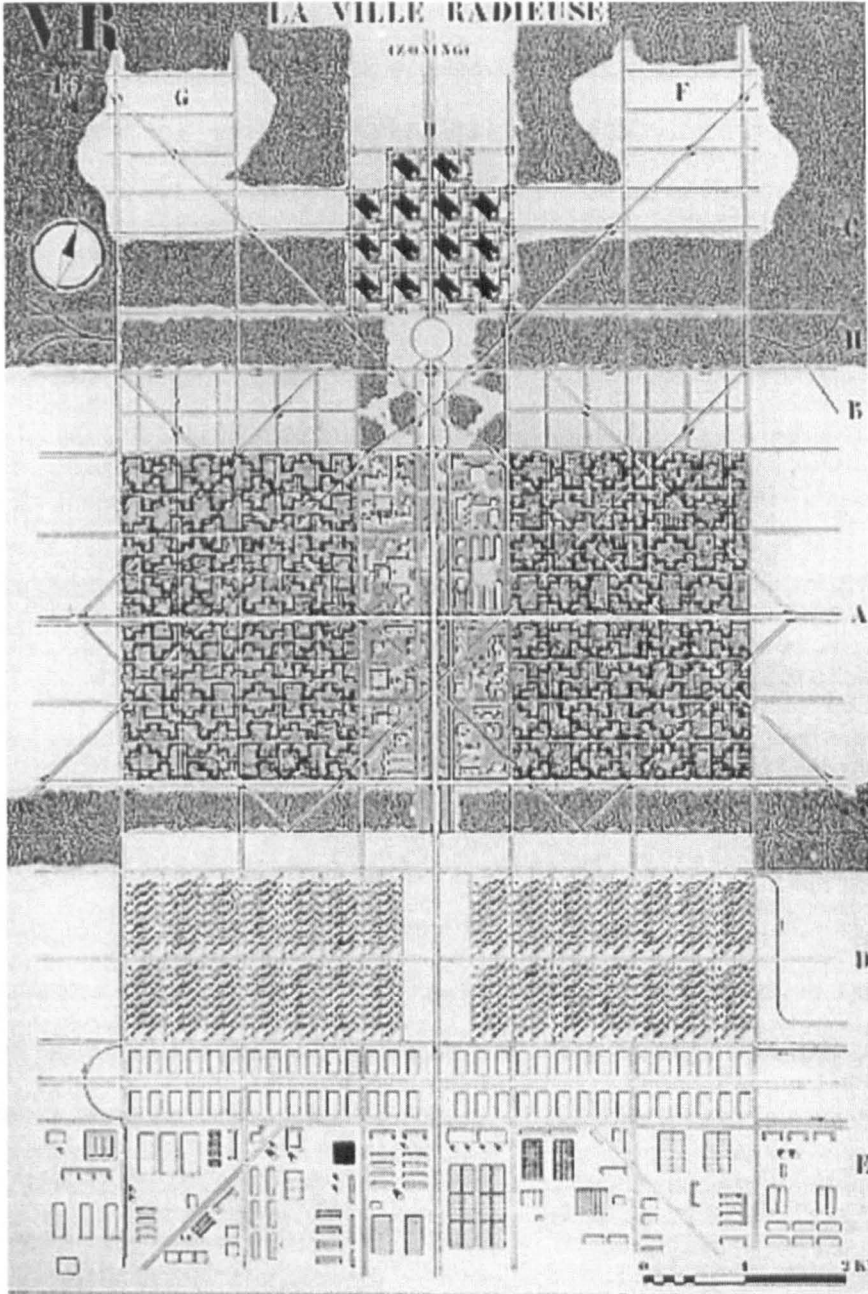
In 1930, Le Corbusier designed another utopian city plan, the Ville Raideuse, which he published in 1935. During the almost ten years between the Ville Contemporaine and the Ville Raideuse, the architect had established firmly his position in the international architectural world through many ambitious design schemes and through an interactive relationship with other modernists.<sup>17</sup> Indeed, the articles – especially those of [Vers une Architecture] and [Urbanisme] – were well circulated among many architect groups; he was invited to

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<sup>17</sup> Especially, Frampton reports that his encounter with *Die neue Sachlichkeit* and three visits to Russia between 1928 and 1930 enabled him to make a wide acquaintance with 'the international Left'. Frampton, K. (1992) *Modern Architecture: A Critical History*, Thames & Hudson, p. 179.

participate in the Stuttgart Weissenhof Siedlung Exhibition in 1927; he designed the famous Villa Savoye (1928-29); and he became a founding member and an ideologue of the CIAM with Giedion.

[Fig. 10] Ville Raideuse, 1930



Originally, the Ville Raideuse was the proposal for Moscow's reconstruction in June 1930, named 'Response to Moscow'.<sup>18</sup> Influenced by the Milyutin town planning of the Soviet Union, the plan suggests an extendable linear city for an egalitarian society, which contrasts with the centralised and hierarchical plan of the Ville Contemporaine. There are also considerable changes in the residential blocks. Most of all, the *immeubles villas* were completely deleted from the plan, inclining to more mass-producible *à redent* blocks. What is more, the *à redent* unit itself shows a strong resonance of the *Existenzminimum* dwellings in the Frankfurt CIAM one year earlier, though he criticised May for not providing enough 'communal services' there.<sup>19</sup> Therefore, the Ville Raideuse house 'steered a middle way between the luxurious' Ville Contemporaine villas and the German and Russian minimum dwellings.<sup>20</sup> It became a single story apartment, abandoning the luxurious double-height living room and 'hanging garden'. The apartment 'optimized every available square centimetre of space'<sup>21</sup> and increased the flexibility and efficiency of a space with sliding partitions. By doing so, his residential blocks were more suited to egalitarian and classless society.

Despite his various suggestions of city planning and mass-production housing schemes, Le Corbusier obtained few real projects except the housing in Pessac (1924-26). In this small place near Bordeaux, Le Corbusier had a rare opportunity to put into practice his mass housing theories up to then. It was a modest dwelling scheme of standardised two-storey terrace houses for workers. About thirty houses (of 130 originally projected) were built, and they are variations of the Maison Citrohan. Each house has its own garden, roof terrace with pergola and plane surfaces with multiple colours. He believed that 'the pressing problems of Architecture' – 'economy, sociology, aesthetics: a new solution, using new methods' – 'were

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<sup>18</sup> Mumford, E. P. (2000) *The CIAM Discourse on Urbanism, 1928-1960*, MIT Press, Cambridge, MA, pp. 44-49.

<sup>19</sup> *Ibid.*

<sup>20</sup> Curtis, W. J. R. (1986) *op. cit.* p. 119.

<sup>21</sup> Frampton, K. (1992) *op. cit.*

solved in a modern spirit' through the Pessac housing.<sup>22</sup> However, his new solution with a new spirit proved considerably problematic. The concrete spray gun for plain surfaces was difficult to manipulate and very expensive, and standardised windows did not fit the openings in walls. The promise of low construction costs could not be kept, but on the contrary, an unexpected drainage problem required more expenditure. Furthermore, 'the working-class inhabitants did not all agree with the architect's theoretical analysis of their needs' as Curtis pointed out,<sup>23</sup> and today's Pessac housing remained distorted in every way against the architect's intention: 'Ground floors were walled up, pitched roofs were added, the ribbon windows were divided up, terraces were turned into extra bedrooms, and a great number of signs which connoted 'security', 'home', 'ownership', were placed all over the exterior, thus effectively destroying the Purist language'.<sup>24</sup>

This Pessac failure might be one reason that Le Corbusier could not realise large-scale housing projects, but the social and political situation in France differed from those in other countries. While more than 80,000 and 60,000 low-cost dwellings were built respectively in Germany and in England between 1919 and 1925, France constructed as few as 18,707 houses regarded as satisfactory according to the law. If Le Corbusier had worked in Germany that had socialist patronage, or if he had worked in the Soviet Union where revolutionary mass housing schemes were possible, he could perhaps have put into practice his ideal planning more.<sup>25</sup> Unfortunately or fortunately, however, he couldn't do that. To realise his ambitious mass housing design, Unité d'Habitation (1947-53), he had to wait over two decades.

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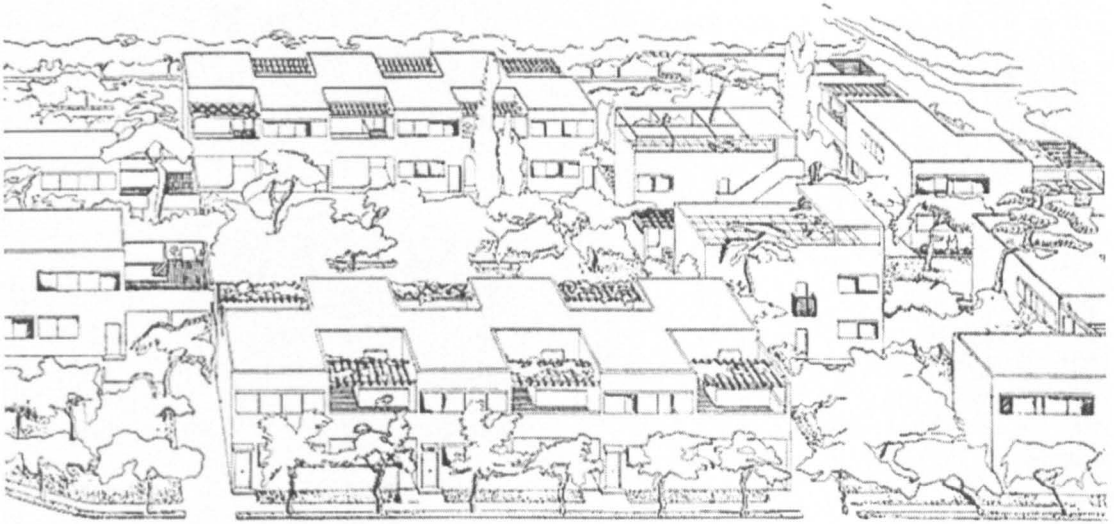
<sup>22</sup> Le Corbusier (1927) *op. cit.* p. 253.

<sup>23</sup> Curtis, W. J. R. (1986) *op. cit.* pp. 66-69.

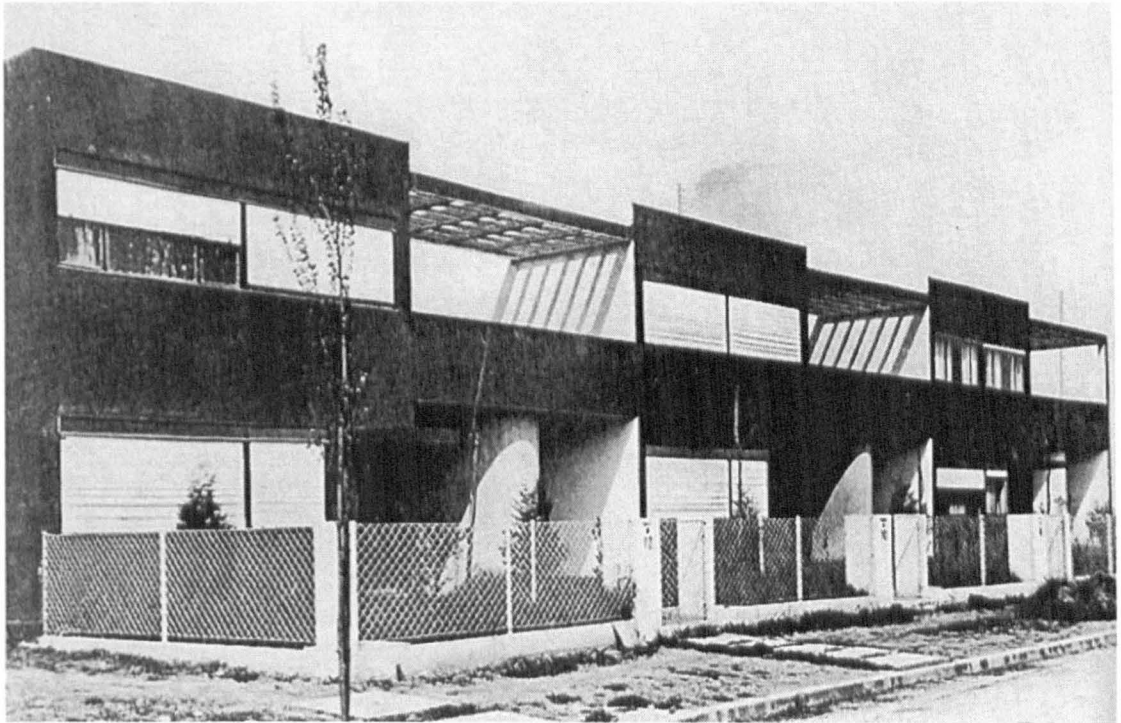
<sup>24</sup> Jencks, C. (1977) *The Language of Post-Modern Architecture*, Rizzoli, New York, p. 54.

<sup>25</sup> Curtis, W. J. R. (1986) *op. cit.* p. 60, 66.

[Fig. 11] Pessac housing drawing, 1924-26



[Fig. 12] Pessac housing original (top) and transformed today (bottom)





## (2) Das Neue Frankfurt and Existenzminimum

Let us suppose we put this question to the army of the underprivileged, who eagerly and impatiently demand decent accommodation. Should they have to put up with a situation where a small number of them enjoy sizeable dwellings while the great majority are condemned to go on suffering deprivation for many more years? Shouldn't they rather be content with a small home that, despite its limited space, would still meet the requirements one has the right to expect of a contemporary dwelling, if this will ensure that the evil of the housing shortage can be abolished in a short period of time? (Ernst May, 1929)<sup>26</sup>

Around 1924, a good many architectural works of a large scale started in Germany, which phenomenon was indebted to the end of the inflation and to the political stabilisation of the Weimar Republic.<sup>27</sup> As a result, 'radical architects', who had realised relatively few commissions before then, could get huge amounts of works, and mass housing developments were the most extraordinary projects among the whole public building schemes under a variety of public patronage. 'The right of every citizen to a sound dwelling within his means', the basic concept of housing by the Prussian Landtag in 1918 was succeeded by 'a set of minimum standards for public housing' under the new rule of the Republic, and the first concern was given to 'small, single-family dwellings in a suburban setting'.<sup>28</sup> Although Otto Haesler's *Siedlung Italienischer Garten* (1923) was the first public housing design by a radical architect in Germany, Frankfurt's housing developments might be the first 'large-scale' mass housing project designed by progressive modernists.

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<sup>26</sup> May, E. (1929) 'Die Wohnung für das Existenzminimum'. In Steinmann, M. (ed.) (1979) *CIAM: Dokumente 1928-39*, Birkhäuser, Basel, p. 6. Translation from Heynen, H. (1999) *Modernity and Architecture*, MIT Press, Cambridge MA and London, p. 49.

<sup>27</sup> Lane, B. M. (1985) *Architecture and Politics in Germany, 1918-45*, Harvard University Press, Cambridge, MA

<sup>28</sup> *Ibid.* p. 88, 244.



Frankfurt's large-scale housing programme was initiated when Ernst May (1886-1970) was appointed as a powerful *Stadtbaurat* or city architect in 1925 by a mayor of the city, Ludwig Landmann, who fully supported the 'new style' of architecture. Landmann and May both shared the idea that the new era needed a new expression in city planning and in housing, like other modernists such as Gropius and Taut.<sup>29</sup> Between 1926 and 1933, May and his associates were able to construct as many as 15,000 home units in more than twenty *Siedlungen*, an amount unrivalled by other architects' accomplishment at that time, not to mention Le Corbusier's small work in Pessac, except that of Bruno Taut and GEHAG in Berlin.<sup>30</sup> Among many *Siedlungen*, three large housing developments of 'Praunheim', 'Römerstadt' and 'Westhausen' are considered the most representative ones. They are located along the Nidda Valley as a part of the outer 'ring' of the city, and have almost 4,000 apartments. All of the housing blocks show the *Zeilenbau* (row housing) principle, which was frequently used by Haesler in the early 1920s and strongly applied by Gropius in his winning competition entry for *Siedlung Dammerstock* near Karlsruhe in 1927. But if we consider the fact that May was a pupil of Theodor Fischer (1862-1938), we can draw a connection of the *Zeilenbau* idea between May's *Siedlungen* and Fischer's *Siedlung Alte Heide* (1919) in München, as Gellhorn (1928) and Nerdinger (1988) did.<sup>31</sup> *Zeilenbau* was strongly concerned with

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<sup>29</sup> *Ibid.* pp. 90-93.

<sup>30</sup> As a chief architect of GEHAG (Gemeinnützige Heimstätten- Spar- und Bau- Aktiengesellschaft), a left-wing Berlin building society, Taut had constructed about 12,000 dwellings between 1924 and 1932. Blundell Jones, P. (2002) *Modern Architecture Through Case Studies*, Architectural Press, Oxford, pp. 85-98.

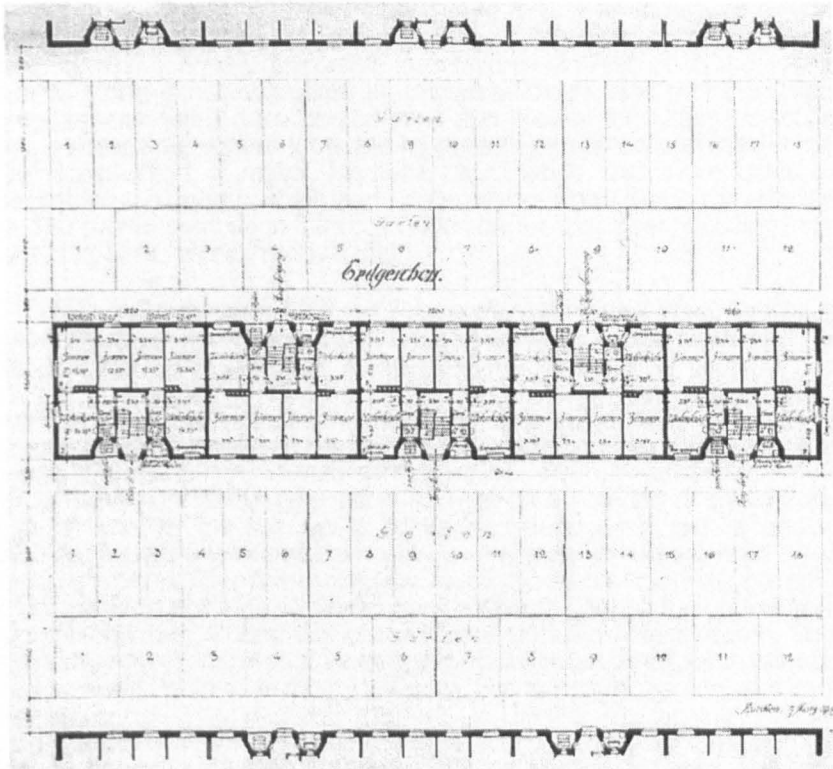
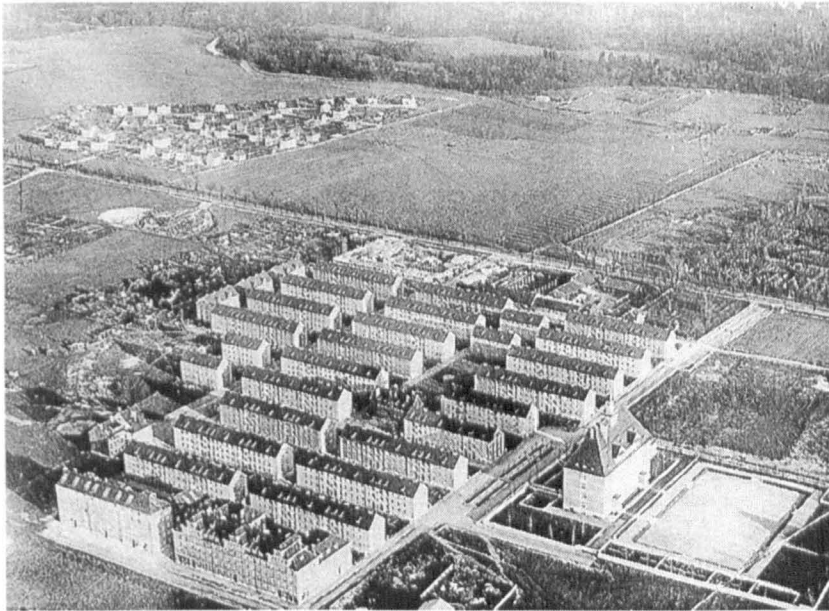
<sup>31</sup> Nerdinger, W. (1988) *Theodor Fischer*, Ernst & Sohn, Berlin, p. 92.

*Auf einer äußerlich formalen Ebene hat das Neue Bauen in Frankfurt natürlich nichts mit Fischer zu tun, aber die Gesamtstruktur der Siedlungen (bis zur Rationalisierungseuphorie ab 1928/29) verweist auf seine Schulung, wie Alfred Gellhorn – ein weiterer Fischer-Schüler – schon 1928 bemerkte, der an Fischers Siedlung Alte Heide als Vorbild für Frankfurt erinnerte.*

((Translation)) On a superficial formal level, the 'new architecture' of Frankfurt seems to have nothing to do with Fischer, but the whole structure of the housing developments (leading to the rationalisation euphoria around 1928/29) refers to his teaching, as Alfred Gellhorn – another of Fischer's pupils – already remarked in 1928 that he remembered Fischer's *Siedlung Alte Heide* as a being a model for Frankfurt.

Beyond the *Zeilenbau* principle, however, the social concept of *Siedlung Alte Heide* was as progressive as that of Frankfurt's new *Siedlungen*. In this sense, Fischer has something to do with das Neue Frankfurt through his pupil May. *Ibid.*

[Fig. 13] Siedlung Alte Heide in München by Theodor Fischer, 1919



orientation, and it seemed fit for 'rationalisation' and 'standardisation' best, and, most of all, to reflect social concerns because of its non-hierarchical character. Moreover, Gropius

regarded it as the most functionalised housing style in the aspects of hygiene, economy and transport,<sup>32</sup> and Giedion supported this solution, emphasising ‘the maximum amount of sunlight’.<sup>33</sup> However, there has also been a critical perception of the *Zeilenbau* principle by some architects like Taut.<sup>34</sup> In the *Siedlungen Westhausen* (1929-31), the row housing principle was adopted in the most orthodox manner, and it did not show any sympathy to the site unlike the *Siedlung Römerstadt* that responded well to the landscape echoing Unwin’s design<sup>35</sup> – May had had a significant experience of working with Unwin in England. The *Westhausen* was the best example of ‘rationalised’ and ‘standardised’ *Siedlung* both in the site

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<sup>32</sup> Gropius, W. (1931) ‘Flach – Mittel – oder Hochbau?’ *CIAM, Rationelle Bauweisen*, Verlag Englert & Schlosser, pp. 26-47. Republished in English as ‘Houses, Walk-ups or High-rise Apartment Blocks?’ in Gropius, W. (1956) *Scope of Total Architecture*, George Allen & Unwin Ltd, London, p. 125.

This grouping (parallel instead of peripheral apartment blocks) provides considerable advantages for the site and has recently been used to an ever increasing extent. Parallel rows of apartment blocks have the great advantage over the old peripheral blocks that all apartments can have equally favourable orientation with respect to the sun, that the ventilation of blocks is not obstructed by transverse blocks, and that the stifled corner apartments are eliminated. Such parallel rows also provide for systematic separation of highways, residential streets and footwalks more easily and at less cost than in the case of peripheral construction. It makes for better illumination and more quiet, and also decreases the cost of road building and utilities without decreasing the effectiveness of land use. The over-all distribution is thus considerably functionalised, resulting in improved conditions of hygiene, economy and traffic.

<sup>33</sup> Giedion, S. (1954) *Walter Gropius: Work and Teamwork*, Architectural Press, London, p. 79.

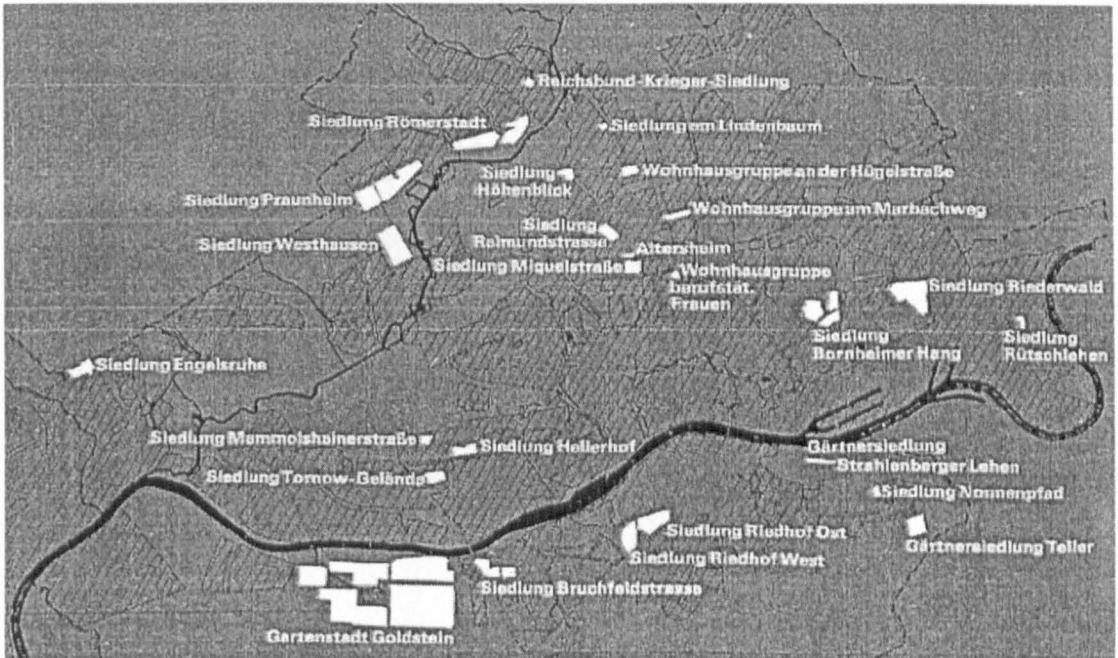
<sup>34</sup> Taut, B. (1936) *Siedlungsmemoiren*. Blundell Jones’s translation, quoted in Blundell Jones, P. (2002) *Modern Architecture Through Case Studies*, Architectural Press, Oxford, pp. 90-91.

One of the foremost fashionable theories of that time was *Zeilenbau*. It was not really new: people merely rediscovered the benefits of getting sun into a dwelling. But having rediscovered it, these people insisted that all houses without exception be lined up in parallel rows with north-south orientation like lines on a notepad or soldiers on parade, regardless of whether the site was a hillside, a natural basin with a pond like the Horseshoe at Britz, a stand of trees, a hollow or river-bed, an existing road or whatever. Only the sun, which in Germany shines on average one day in three, existed for these people, not the wind nor the rain. Some medical experts claimed the course from east to west was the optimum, so one side of the house must face directly south. Others held that a slight deviation from full south was better. Those like us who built continuously, and who observed one fashionable theory give way to another, recognised that each theory may have some truth, but not the whole truth. In *GEHAG* we certainly used *Zeilenbau*, but at the same time in the same housing scheme we also had normal border development along the roads. Our buildings were never intended as experiments to test a theory: rather they had to be liveable and comfortable in their grouping and in their courts, streets and squares.

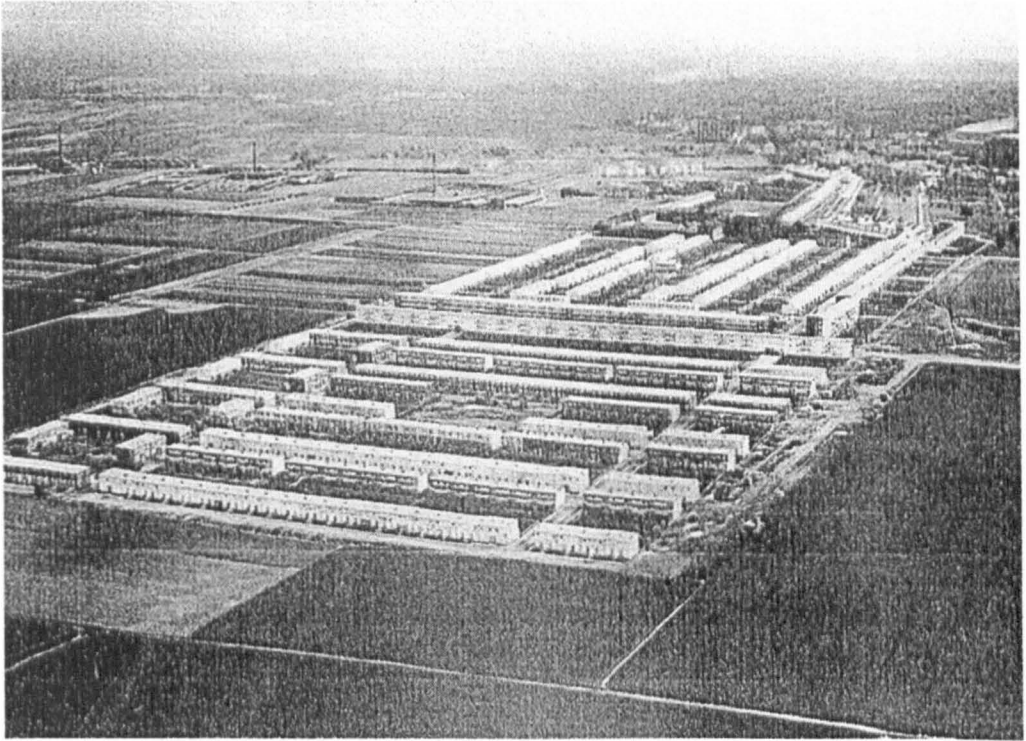
<sup>35</sup> Heynen, H. (1999) *op. cit.* pp. 55-61. There was an ‘unmistakable tendency toward great simplicity’ after 1929 as we can see in ‘the evolution from a garden city concept to open row development’. Heynen attributes it mainly to growing financial problems. In addition to the reason, I argue that the *CIAM* meeting was another possible influence on it because May and his associates could be armed more with the assured rational design methods stimulated by other rationalists.

plan and in the unit plan. All the housing blocks were laid out serially in an orthogonal grid. Two storey blocks of 7 by 9 matrix – for two families in each storey – occupy the large portion of the Siedlung, and others are four storey housing located vertically. In any case, all the blocks face the south diagonally and have a same interval between each other – the same open space of pedestrian roads and gardens. Therefore, all residents were to achieve an equal standard of living. Each unit plan illustrates how designers tried to organise all rooms efficiently in the minimum space. In the two-storey block, two flats of the ground floor (40m<sup>2</sup>) and the upper floor (42m<sup>2</sup>) share the staircase. They have two bedrooms, one living room, a kitchen and a toilet (ground floor flat) or a bathroom (upper floor flat) of a minimum size. Especially, the living room functions as a dining room, and has a folding bed, too. The unit of the four-storey blocks is a little bit larger than that of the two-storey housing but has a similarly compact spatial organisation. In each floor of the typical four-storey block, there are six flats that share one staircase and can be accessed through a corridor. Without regard to size, this block is a convincingly universal model for a corridor-type apartment housing (*Laubenganghäuser*) that has been applied all over the world.

[Fig. 14] Siedlungen in the new Frankfurt

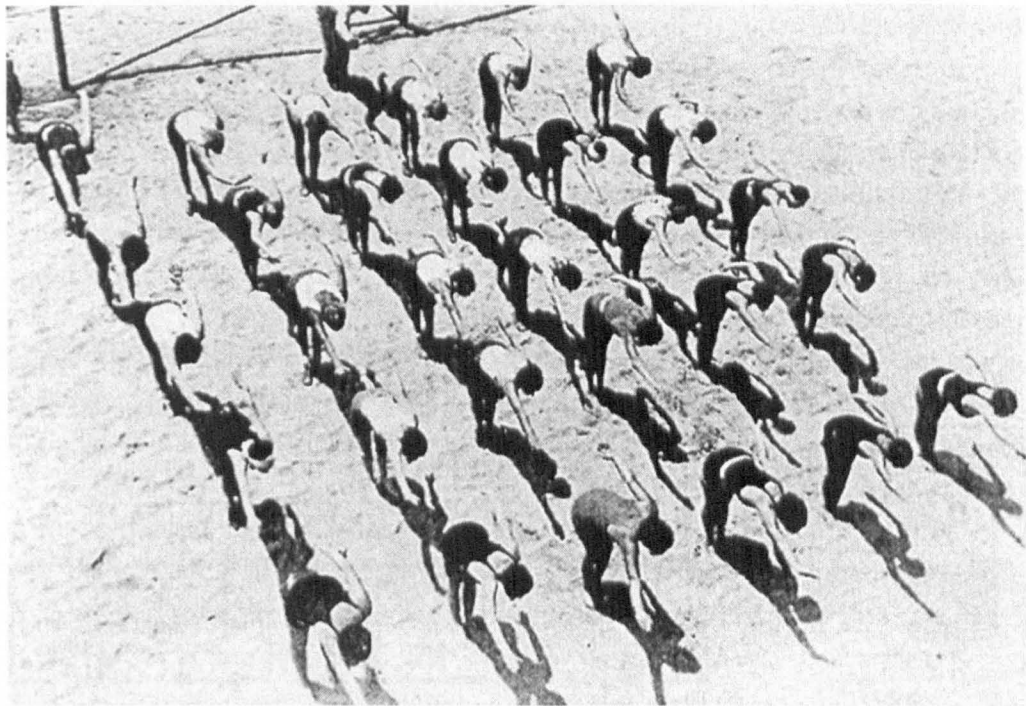


[Fig. 15] Siedlung Praunheim, 1926-29 (top) and Siedlung Römerstadt, 1927-28 (bottom)

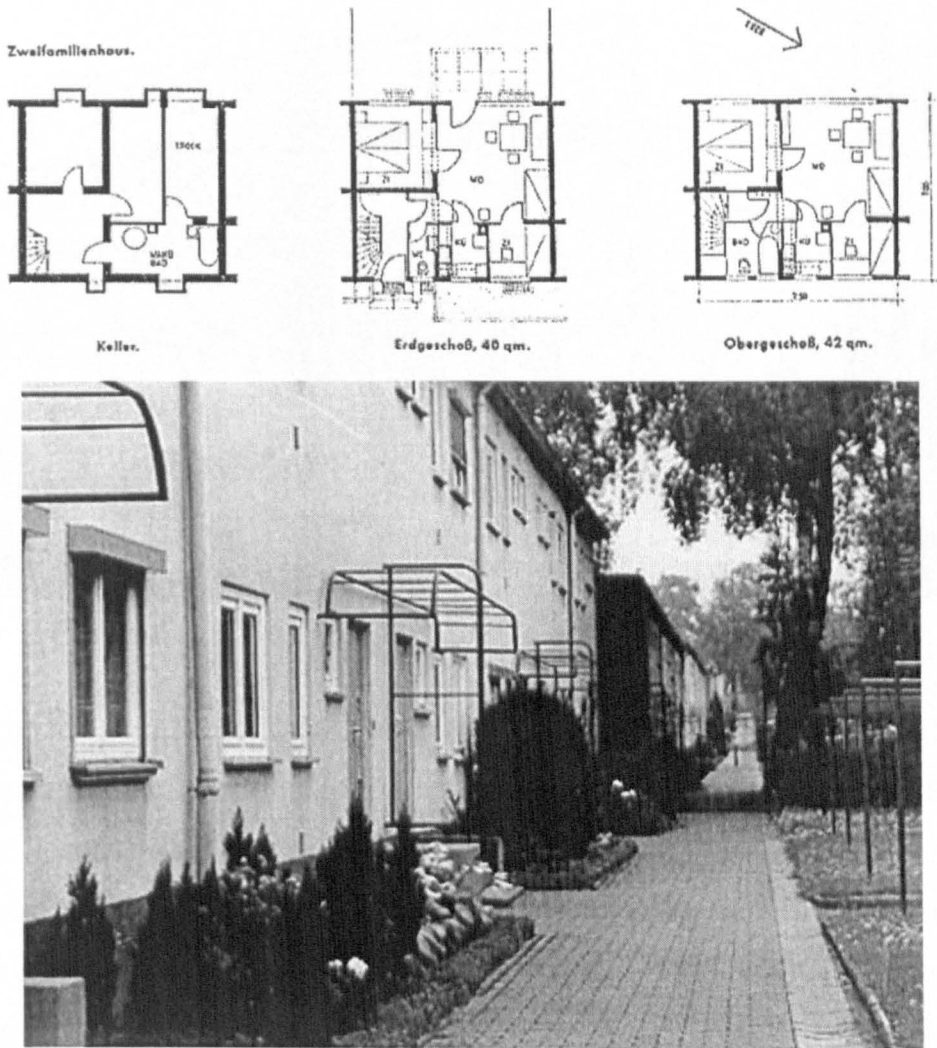




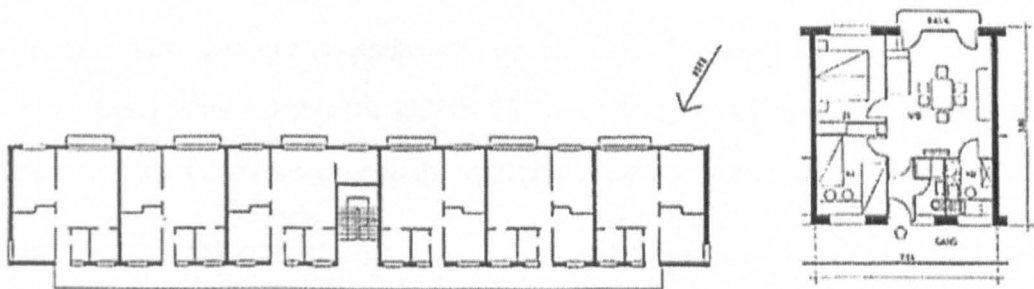
[Fig. 16] Siedlung Westhausen, 1929-31 (top and bottom left) and 'A homogeneous metropolitan public' by Christoph Mohr and Michael Müller, illustration in Heynen (1999) (bottom right)



[Fig. 17] Two-storey block plan and photo in Siedlung Westhausen



[Fig. 18] Four-storey block plan and photo in Siedlung Westhausen







In building the New Frankfurt, May and his associates actively adopted various methods of ‘rationalisation’ and ‘standardisation’. The *Frankfurter Häuserfabrik* (Frankfurt Building Factory) constructed the housing blocks using pre-cast concrete slab within a short period, which was later named the ‘May system’, and the *Frankfurter Normblätter* (specification details) were published. They used fitted furniture and folding beds for spatial efficiency and, above all, the built-in kitchen unit, *Frankfurter Küche* (designed by Grete Schuette-Lihotzky in 1926) became very famous. In addition, well-matched with the name of ‘new architecture’, the modern housing had facilities of running hot water, central heating, electricity, central refrigeration plant and centralised radio aerial.<sup>36</sup> There were two major ways through which the Frankfurt story could be disseminated internationally. One was a monthly magazine [Das Neue Frankfurt] published between 1926 and 1931. Broad discussions of the new architecture in Frankfurt and its documentation in the magazine had drawn a wide range of interest,<sup>37</sup> and,

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<sup>36</sup> Borngräber, C. (1979) ‘The Social Impact of the New Architecture in Germany and the Building of the New Frankfurt’, *AAQ*, vol. 11, no. 1, pp. 39-43.

<sup>37</sup> [Das Neue Frankfurt] had three different sub-themes through the years. The first was *Monatsschrift für die Fragen der Grosstadtgestaltung* between 1926 and 1927, the second was *Monatsschrift für die Probleme moderner Gestaltung* between 1928 and 1929, and the third was *Internationale Monatsschrift*

after all, it had facilitated the new architectural programme in the city. Additionally, it became a vehicle to advocate the ‘modern movement’ without regard to the matter of the new city. The other is the 2nd CIAM in Frankfurt in 1929. May was one of the founding members of the CIAM in La Sarraz in 1928, and he invited delegates to his hometown for the next congress with the theme of *Die Wohnung für das Existenzminimum*. Importantly, Aalto was a new participant there and was influenced considerably by the concept of the minimum dwelling.

[Fig. 19] *Frankfurter Küche* designed by Grete Schuette-Lihotzky, 1926 (left) and cover of [Das Neue Frankfurt], April and May 1930 (right)



In the CIAM congress, there were four key lectures on the theme: ‘The Sociological Foundations of the Minimum Dwelling’ by Walter Gropius from Germany (read by Giedion); ‘The Program of the Minimum Dwelling’ by Victor Bourgeois from Belgium; ‘Criticism and Improvement of the Existing Building Regulations in Reference to the Minimum Dwelling’ by Hans Schimidt from Switzerland; and ‘Analysis of the Fundamental Elements of the

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*für die Probleme kultureller Neugestaltung* between 1930 and 1931. Heynen, H. (1999) *op. cit.* p. 233.

‘Minimum House’ Problem’ by Le Corbusier from France (read by Pierre Jeanneret).<sup>38</sup> Through these lectures, the architects asserted the necessity and inevitability of the minimum dwelling in new society in common, despite the fact that each architect’s stance on the issue was slightly different – for example, Gropius advocated a high-rise housing block under the possible influence of Le Corbusier, whereas May insisted on low-rise housing; and Le Corbusier criticised the lack of ‘a corresponding examination of the overall provision of communal services’ in May’s minimum dwelling in the CIRPAC meeting of February 1930.<sup>39</sup> As well as the lectures, there was also an exhibition of minimum dwelling plans from twenty-six European cities and the United States in the congress, and the exhibition later made a tour around Europe.<sup>40</sup> The repercussion of *Das Neue Frankfurt* was quite enormous. For the Frankfurt story not only remained in the first CIAM publication [Die Wohnung für das Existenzminimum] in 1930 but also continued in the 3rd congress in Brussels in November of the same year and had a huge influence on later housing environment all over the world.

Unfortunately, however, the revolutionary modern housing in Frankfurt did not turn out to be as satisfactory in practice as claimed with its official success, as Christian Borngräber (1979) reported in detail.<sup>41</sup> Despite May’s promise that ‘the lot of the poorest of the poor will also improve’,<sup>42</sup> the temporary settlement for the homeless built in 1928 remained as a permanent dwelling for financial reasons. The goal that the weekly wage of a worker could cover the monthly rent of the new housing was just an ideal, because that of the smallest flat required more than two weeks wages, so only salaried people could manage the rent. As a result, the poor could not but stay in the bad conditions of old houses, and many modern flats were left unoccupied. ‘The illusion’, as Karel Teige (1900-51) implied in the Brussels CIAM in 1930, ‘had evaporated’.<sup>43</sup> Because of the standardised constructional methods and the flat roofs of

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<sup>38</sup> Mumford, E. P. (2000) *op. cit.* pp. 34-44.

<sup>39</sup> *Ibid.*

<sup>40</sup> *Ibid.*

<sup>41</sup> Borngräber, C. (1979) *op. cit.*

<sup>42</sup> May, E. (1928) ‘Das soziale Moment in der Neuen Baukunst’, *Das Neue Frankfurt*, no. 5 (May 1928), p. 78. Cited in Borngräber, C. (1979) *op. cit.* p. 39.

<sup>43</sup> Borngräber, C. (1979) *op. cit.* p. 40.

the modern housing, unemployment rose sharply – ‘40 per cent tilers and 75 per cent of slate quarry workers were out of work’. The tilers’ guild argued that ‘a half-timbered three-room flat ... if mass-produced, would be 30 per cent cheaper than the cheapest housing in Frankfurt’, quoting Paul Schmitthenner. As well as the financial matters, the modern concepts applied to the new architecture revealed many problems. Owing to the mass-production and to the flat roof, the most common complaint raised by dwellers in the New Frankfurt was damp, which made a phrase of ‘Damp means May’. The standardised window frames did not fit the walls closely enough to prevent the wind and rain coming in, there were cracks in ceilings and walls, and these problems seriously damaged the wallpaper and the interiors of flats. And, the imperative concept of a minimal space, which even introduced the foldable bed of a sleeping car, failed to make dwellers feel at home even when at home. The ‘rational minimum’<sup>44</sup> did not distinguish the difference between the machine for ‘temporary’ occupation and a comfortable permanent house. What is more, the underlying socialist dream of the unified culture and the new society proved only to reproduce ‘in the city the disintegrated form of the paleotechnical assembly line’.<sup>45</sup> And, rather than reforming the bourgeois capitalist social order fundamentally as in the original aim, the Frankfurt project resulted in the working class being woven into the conventional society.<sup>46</sup> Behind its quantitative accomplishment, the *Existenzminimum* mass housing projects of the New Frankfurt left a multi-layered lesson to ponder over.

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<sup>44</sup> ‘Derived from biological and sociological concepts a better analogy is the lettable seat on the express train: the *Standardwohnung* is the rational minimum derived from function and purpose.’ Gropius, W. (1929) ‘The Sociological Foundations of the Minimum Dwelling’, *Das Neue Frankfurt*, no. 11 (November 1929), p. 226. Cited in Borngräber, C. (1979) *op. cit.* p. 43.

<sup>45</sup> Tafuri, M. (1976) *Architecture and Utopia: Design and Capitalist Development*, MIT Press, Cambridge, MA, p. 116.

<sup>46</sup> Heynen, H. (1999) *op. cit.* p. 68.

### (3) Housing Developments in Post-War Period

As I described in the above chapters, '*machine à habiter*' and '*Wohnung für das Existenzminimum*' might be some of the most influential concepts for modern mass housing projects because they seemed to fit the *Zeitgeist* and they were also quite suitable for rationalisation and standardisation for mass construction. Besides, *die neue Sachlichkeit* became an 'international expression' for a housing façade, and the *Zeilenbau* principle had established its position and had been applied to many large-scale housing developments. In addition, the concept of high-rise housing blocks was raised and advocated by some architects. Particularly at the Brussels CIAM of 1930, Le Corbusier suggested demolishing 'existing cities and rebuilding them with buildings of 15, 20 or more stories' to increase the density,<sup>47</sup> and Gropius illustrated with diagrams the advantages of high-rise blocks in terms of 'air, sun, view and distance from neighbour block'.<sup>48</sup> However, high-rise housing blocks were not so easily realised because of psychological and technological matters, and many people could not admit the fact that low-cost housing should have a lift. We can find only a few examples of high-rise housing blocks in the 1930s, such as some ten-storey apartment blocks in Rotterdam: the Bergpolder (Brinkmann, Van der Vlugt and Van Tijen, 1934) and the Plaslann (Van Tijen and Maaskant, 1938).<sup>49</sup> It is after the 2nd World War that high-rise housing blocks were actively built.

World War II brought about a tremendous change of our built environment.<sup>50</sup> Many countries suffered severe destruction of houses and many other buildings owing to massive

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<sup>47</sup> Mumford, E. P. (2000) *op. cit.* p. 49.

<sup>48</sup> Gropius, W. (1931) 'Flach – Mittel – oder Hochbau?' *CIAM, Rationelle Bebauungsweisen*, Verlag Englert & Schlosser, pp. 26-47. Republished in English as 'Houses, Walk-ups or High-rise Apartment Blocks?' in Gropius, W. (1956) *Scope of Total Architecture*, George Allen & Unwin Ltd, London, FIG. 40.

<sup>49</sup> Concerning new attempts and shortcomings in the projects, see Benevolo, L. (1971) *History of Modern Architecture*, vol. 2, Routledge & Kegan Paul, p. 606.

<sup>50</sup> For the description of the post-war housing situation, [A History of Urban Housing] (Korean text) by Sei-Kwan Sohn became a basic reference to the author. Sohn, S. K. (1993) *A History of Urban Housing*, Yolhwadang, Seoul

[Fig. 20] Gropius's diagram of apartment blocks with different heights

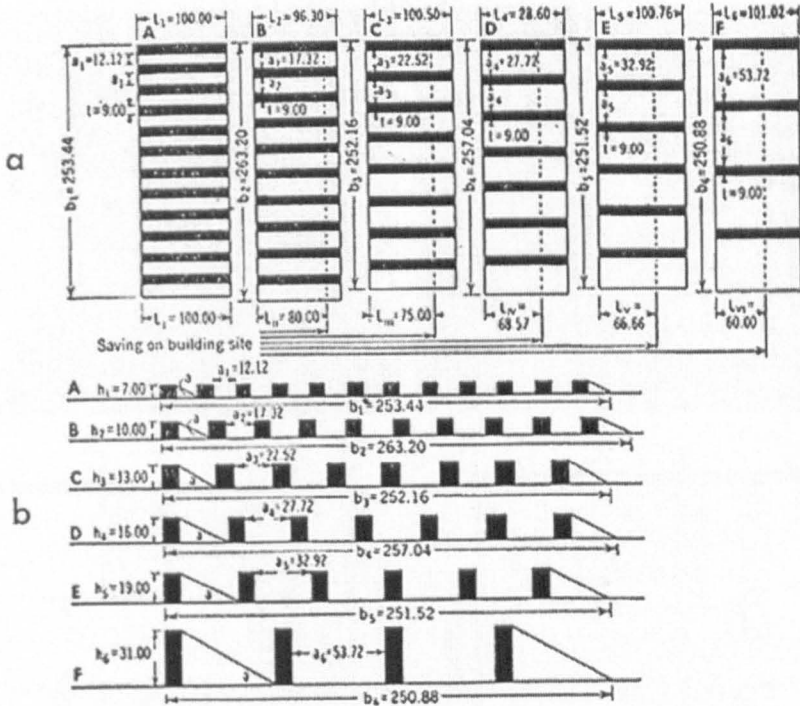
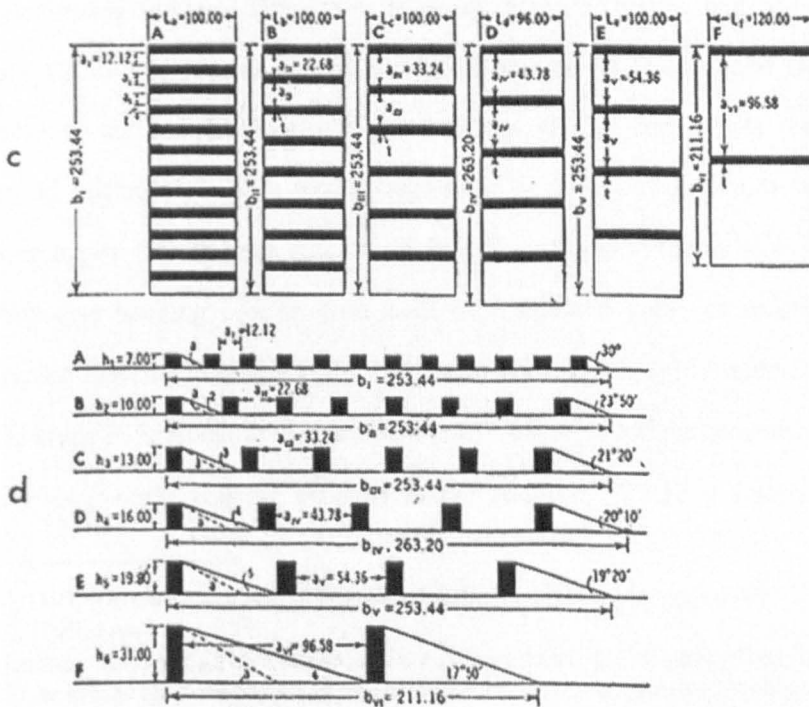
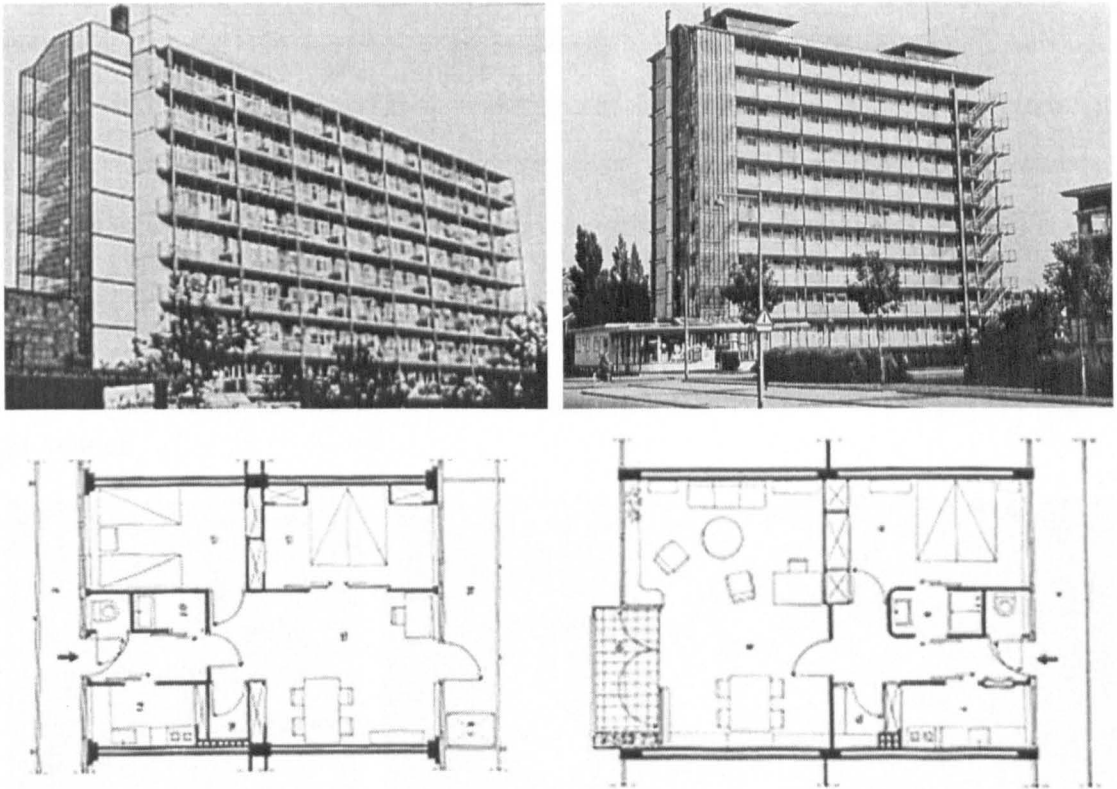


FIG. 40—*a, b, c, d*: Diagram showing the development of a rectangular site with parallel rows of apartment blocks of different heights. Conditions as to air, sun, view and distance from neighbour block are improved with increased height of the blocks in *c* and *d*. In *a* and *b* these conditions are constant, but the higher the buildings the less land is needed for the same amount of living space.



[Fig. 21] 10-storey apartment blocks of 1930s in Rotterdam: Bergpolder, 1934 (left) and Plaslann, 1938 (right)



bombardments during the war. For example, nearly 500,000 homes had been destroyed in Britain, about 1.5 million houses had become uninhabitable in France, and the problems of Germany were so serious that Berlin alone had had 40 per cent of its pre-war housing ‘bombed out of existence’.<sup>51</sup> As a result, large-scale housing developments were inevitably regarded as an urgent task in each country. In Britain, many new towns were developed and mid- and high-rise housing blocks were built in residential areas of existing cities, like Churchill Garden Housing (1948) and Roehampton Housing (1951) in London.<sup>52</sup> Particularly, Park Hill and Hyde Park Housing development (1957-66) in Sheffield became one of the most representative large-scale housing projects in the country.<sup>53</sup> There are serpentine housing

<sup>51</sup> Pawley, M. (1971) *Architecture versus Housing*, Studio Vista, London, pp. 63-79.

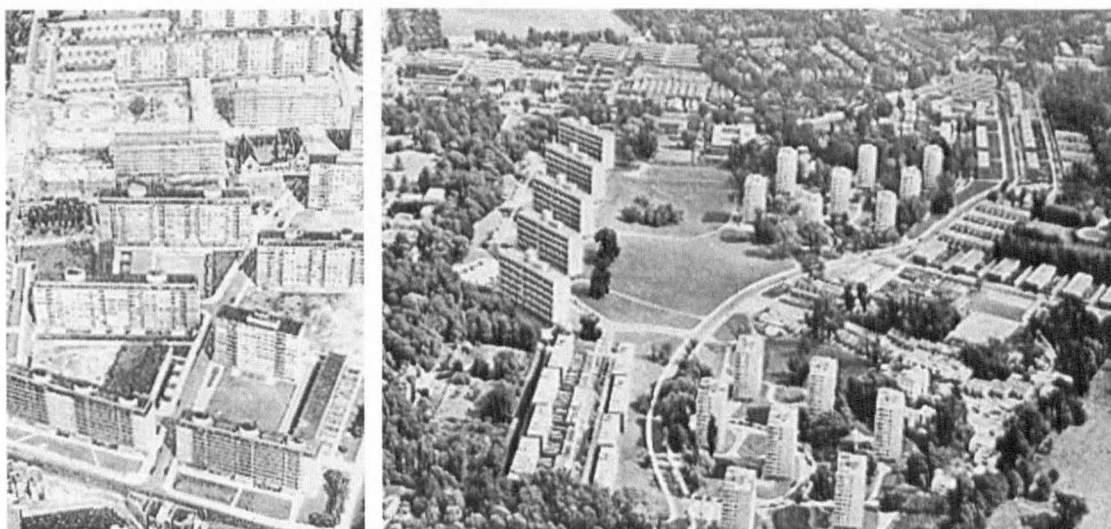
<sup>52</sup> Sohn, S. K. (1993) *op. cit.* p. 319.

<sup>53</sup> In the meantime, ‘system-built’ tower blocks were going all over the country (470,000 new dwelling units by 1968), which might be regarded as engineers’ works not as architects’. The collapse of the 23-storey Ronan Point in London in May 1968 heavily tarnished the easy-going constructional method of



blocks with varying height from four to fourteen storeys, of which morphology has an affinity with Le Corbusier's 'Plan Obus' for Algiers (1930-34)<sup>54</sup> and the street-decks seemed to be borrowed from the 'streets-in-the-air' of Smithsons' Golden Lane Deck Housing.<sup>55</sup> Although as many as 2000 families could be accommodated in the modern flats owing to this project, it still has some problems: for instance, the streets in the air did not function as a sociable space; the high-handed appearance daunts not only inhabitants but also pedestrians,<sup>56</sup> and it is said that the 'vast scale regularity has produced an undeniable feeling of living in a barracks.'<sup>57</sup>

[Fig. 22] Churchill Garden Housing, 1948 (left) and Roehampton Housing, 1951 (right) in London



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high-rise modern mass housing projects and it was eventual demolished in 1986. Great Britain: Ministry of Housing and Local Government (1968) *Report of the inquiry into the collapse of flats at Ronan Point*, H.M.S.O. London

<sup>54</sup> Richards, J. M. (1967) 'Housing and the Environment', *Architectural Review*, November 1967, vol. 142, p. 350, and Pawley, M. (1971) *op. cit.* pp. 93-95.

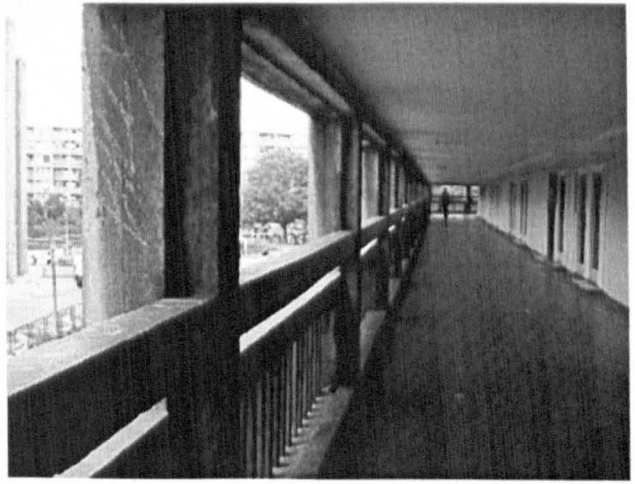
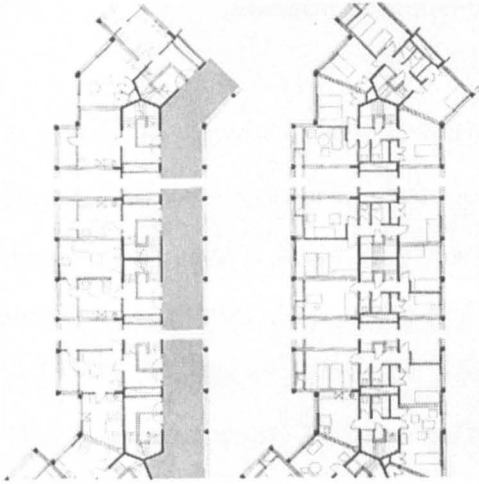
<sup>55</sup> Lynn, J. (1962) 'Park Hill Redevelopment, Sheffield', *Journal of the Royal Institute of British Architects*, December 1962, p. 448.

The Smithsons' Golden Lane project used a similar street-access to ours, and made the first moves towards their continuity by creating street-corner junctions where refuse chutes would be located, which they likened to the modern equivalent of the village pump.

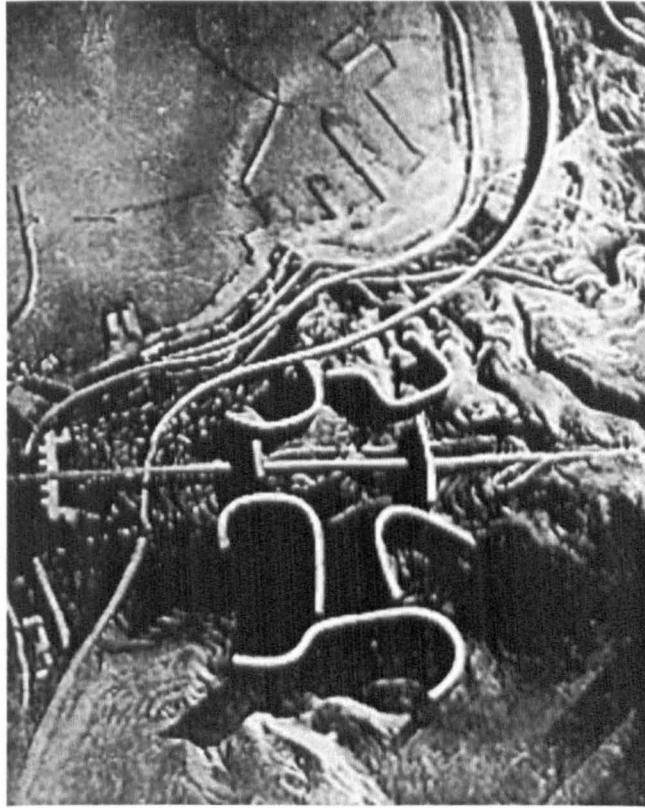
<sup>56</sup> Because the site is located on a hill right behind Sheffield Railway Station, visitors to Sheffield get impressed by the huge housing blocks that define the skyline over the station as a wide screen.

<sup>57</sup> Richards, J. M. (1967) *op. cit.* p. 351.

[Fig. 23] Park Hill and Hyde Park Housing development in Sheffield, 1957-66



[Fig. 24] Le Corbusier's 'Plan Obus' for Algiers, 1930-34



In France, the typical housing developments after the war might be the *grand ensemble* project.<sup>58</sup> *Grand ensemble* is a large-scaled housing district in the suburbs of Paris, one of which accommodates about 30,000~40,000 people in 8,000~10,000 dwelling units like a small city. Generally, *grands ensembles* were composed of mid- and high-rise housing blocks and public facilities on park spaces, which were also reminiscent of Le Corbusier's concepts. They had spread around Paris so quickly that almost one sixth of Parisians were estimated to be living in them by 1969. The largest *grand ensemble* is one located near Sarcelles, but it became the most notorious case that suffered from continual criticism owing to 'its overwhelming and constantly expanding array of new apartment buildings and its massive concentration of people'. It was even described as 'a lesson to the young architects,

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<sup>58</sup> Sohn, S. K. (1993) *op. cit.* and Evenson, N. (1979) *Paris: A Century of Change, 1878-1978*, Yale University Press, New Haven, pp. 238-252.

administrators, and politicians, so that they will never conceive of or commit such mistakes'.<sup>59</sup> Despite specific differences, many other housing developments in France between 1950s and 1970s could not avoid similar criticism except a few cases like La Grande Borne (1967-70). It is said that the living environment of this district was improved to a degree through variations like serpentine block types and changing colour schemes.<sup>60</sup> On the other hand, Germany could not project a large-scaled housing development because the defeated country suffered from a serious financial problem and lack of construction materials. So, there had been mainly small-scaled developments of low- and mid-rise *Zeilenbaus* until the mid 1950s when the country started re-establishing its national system. Around 1960, Germany could start large-scaled high-rise housing developments in many cities. Among them, Hansaviertel Interbau Exhibition in Berlin in 1957 was an important architectural event. Inviting internationally renowned architects from fourteen countries – to mention just a few architects, Alvar Aalto from Finland, Le Corbusier from France, Walter Gropius from USA, Oscar Niemeyer from Brazil, Arne Jacobsen from Denmark and Egon Eiermann from Karlsruhe, it aimed at creating a lively environment in war-damaged West Berlin. In the sense that various types of housing by different architects suggested a new direction for post-war German housing, this exhibition can be regarded as a good trial. At the same time as the Interbau Exhibition, Siedlungen Charlottenburg-Nord (1956-61), a large social housing development by Scharoun, was executed. Although contemporary critics paid less attention to it than Interbau owing to the less striking visual images, it was a very successful project in terms of cost, number of dwelling units, spatial variation, amenity of living environment and many other aspects.<sup>61</sup>

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<sup>59</sup> Evenson, N. (1979) *op. cit.* p. 246.

The ensemble of Sarcelles will be, for archaeologists of the year 3000, a masterpiece of the disorder – cultural, political, architectural, and civic – of the postwar period. It is already serving as a lesson to the young architects, administrators, and politicians, so that they will never conceive of or commit such mistakes.

<sup>60</sup> Concerning the various merits of La Grande Borne, see *Ibid.* p. 242.

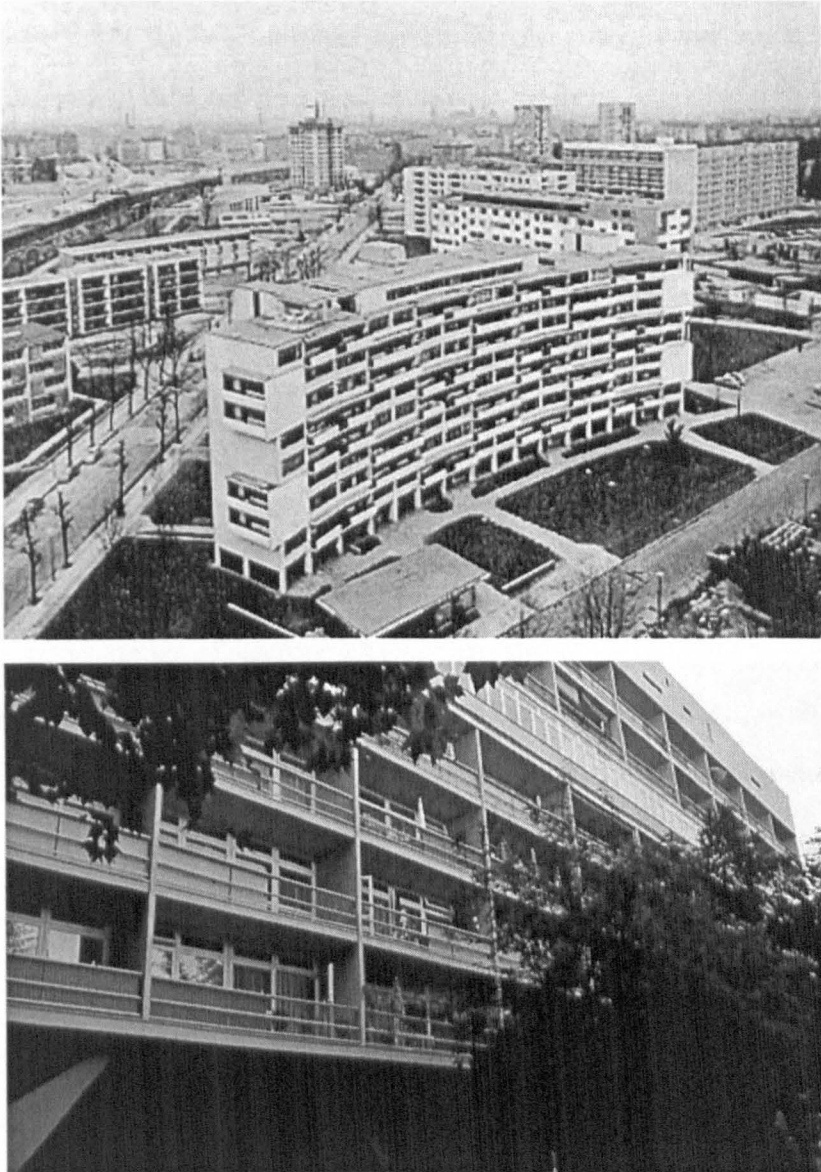
<sup>61</sup> Blundell Jones, P. (1995) *Hans Scharoun*, Phaidon, London, pp. 118-123.

[Fig. 25] Sarcelles Grand Ensemble (top) and Grande Borne (bottom)





[Fig. 26] Hansaviertel Interbau Exhibition in Berlin, 1957: Walter Gropius block (top) and Oscar Niemeyer block (bottom)



Among housing developments in the post-war period, the best known housing block is undoubtedly Le Corbusier's Unité d'Habitation in Marseille (1947-53). In this housing block, Corbusier could realise his dream of an ideal community which he had not been able to materialise in the pre-war era. Unité d'Habitation in Marseille can be regarded as a refined conglomeration of his various ideas: *Maison Dom-ino*; *Five Points of a New Architecture*; *Maison Citrohan*; *Ville Contemporaine*; *Ville Raideuse*; *Plan Obus for Algier*, etc. It is a 17-

storey super block on massive pilotis, which contains 350 apartments of 23 different types and can accommodate about 1,600 people. It also has a shopping street on the 7<sup>th</sup> and 8<sup>th</sup> floor levels and other public facilities in a roof garden. For the size of every space, Le Corbusier applied his Modulor system, and the polychrome colour scheme of the building is impressive. The most imposing image of the Unité in a harbour city, Marseilles, is of a modern ocean liner moving towards a 'new society'. That is to say, the Unité itself is a self-contained city like a huge ocean liner with various types of apartments (cabins), communal facilities and an ideal community concept. Above all, the intangible image was more visualised by lifting the whole block off the ground on pilotis – like a floating ship on water – and in the roof structure – reminiscent of 'the liner's communal promenade decks'.<sup>62</sup> Yet, the liberation from the earth also means no direct relation with nature; the idea that, in contrast, Aalto emphasised in his housing projects. This ocean liner concept of the housing block still shows the architect's obsession with the concept of *machine à habiter*, initiated in the Maison Citrohan in the early 1920s. However, his usage of *Béton brut* for the Unité contrasts sharply with the rendered plain façade of 1920s. This is what Banham regarded as the most 'crucial innovation' of the building in [The New Brutalism] (1966):

The crucial innovation of the 'Unité' was not its heroic scale, nor its originalities in sectional organisation, nor its sociological pretensions – it was, more than anything else, the fact that Le Corbusier had abandoned the pre-war fiction that reinforced concrete was a precise, 'machine-age' material.<sup>63</sup>

Compared with the excitement in architectural circles over the fascinating ideas of the Unité, the reaction from the public was very disappointing. Many apartments have been empty because of some demerits: too narrow a unit; dark corridor; daunting appearance of the block; really 'brutal' materiality; psychologically uneasy roof garden for children, etc. And the shops

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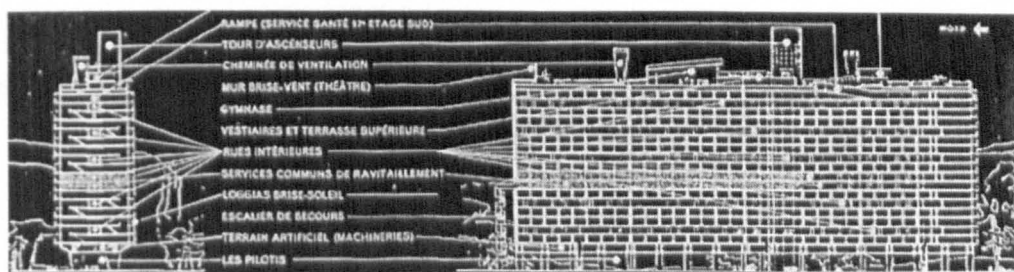
<sup>62</sup> Colquhoun, A. (1972) 'Displacement of Concepts in Le Corbusier', *Architectural Design*, vol. 43, April 1972, pp. 220-243. Republished in Colquhoun, A. (1981) *Essays in Architectural Criticism: Modern Architecture and Historical Change*, MIT Press, Cambridge, MA, pp. 51-66.

<sup>63</sup> Banham, R. (1966) *The New Brutalism*, Architectural Press, London, p. 16.



in the middle-level street could not be maintained owing to lack of customers. Le Corbusier overlooked the fact that inhabitants have a freedom to choose a shop among many other options in the outside.<sup>64</sup> For this reason, Corbusier's masterpiece Unité d'Habitation functions more as a monument than as actual housing.<sup>65</sup> Nevertheless, this Marseilles Unité became a prototype of Le Corbusier's high-rise mass housing block and was realised again in several cities like Nantes-Rezé (1953-55), Berlin (1956-58), Briey-en-Forêt (1957-61) and Firminy-Vert (1960-68) in the following years. No matter whether it was unfortunate or not, Corbusier's original ideas in Marseilles could not be fully applied to the later versions. For example, the Berlin Unité, built for the Interbau Exhibition (1957),<sup>66</sup> could not have a shopping street in a middle-level and a roof garden – key concepts for Corbusian ideal community, and the brutal skin was hidden under rendering, because the rough surfaces were thought not to have created healthy living environments in the former version. And Corbusier's discord with the Berlin authorities led him to hand over the project before it was completed.<sup>67</sup> But all the same, Le Corbusier's Unité d'Habitation became a very important precedent for later mass housing projects and many of his ideas were imitated and repeated by many architects.

[Fig. 27] Unité d'Habitation Marseilles, 1947-53: diagram (top), ship image sketch (middle left), interior shopping street (middle right) and exterior view (bottom)

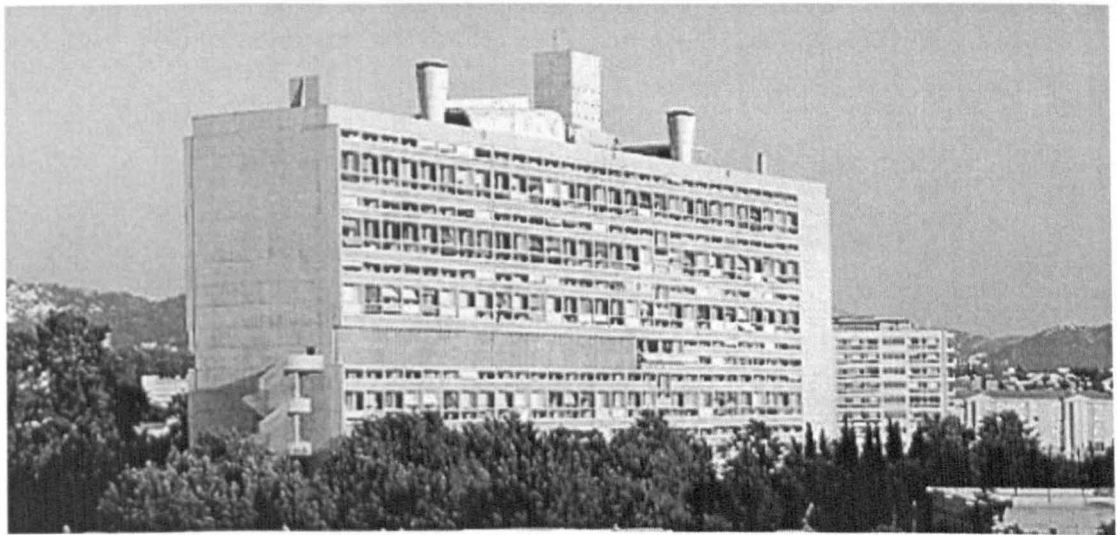
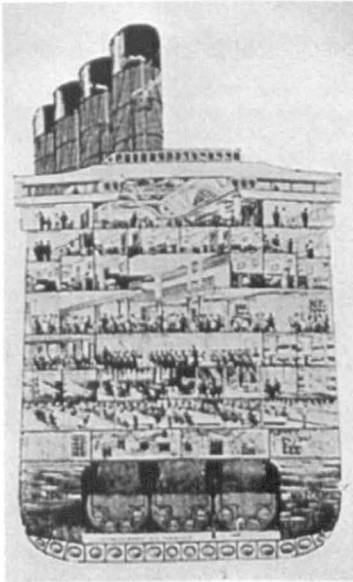


<sup>64</sup> Sohn, S. K. (1993) *op. cit.* p. 321.

<sup>65</sup> Many of the inhabitants are architects or people related to something of the master, Le Corbusier. Still, some apartments are empty and some of them are utilised as two-star hotel for visitors who want to experience the Corbusian monument.

<sup>66</sup> Because of the size of the building, it cannot be built in the Hansa district instead in one site in the Berlin forest on the 'Olympian Hill' (This information is from a notice board at the lobby of Berlin Unité. Author's visit to the building on 19 July 2002). Interestingly, Oscar Niemeyer built in the Hansa district a large housing block reminiscent of Corbusier's Unité.

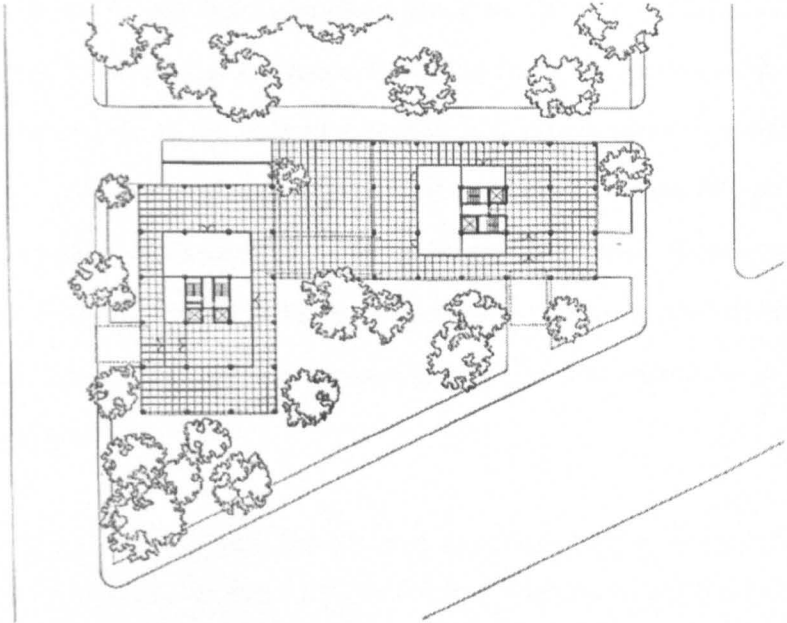
<sup>67</sup> Jenkins, D. (1993) *Unité d'Habitation Marseilles*, Architecture in Detail, Phaidon, London



[Fig. 28] Unité d'Habitation Berlin, 1956-58



[Fig. 29] Lake Shore Drive Apartment buildings in Chicago, 1948-51



Another interesting monumental housing is Mies van der Rohe's 26-storey twin tower apartment blocks at 860 and 880 Lake Shore Drive in Chicago (1948-51). They are truly Miesian buildings made of steel and glass, illustrating the contemporary technology, and the rectangular minimal plan on the basis of a rational grid system assumes a neutral space and constructional efficiency. Despite the elegant façade and the monumentality of the buildings, it is questionable how considerably the internal living space for dwellers was thought over. Certainly, these buildings look more like his typical office towers rather than housing blocks. Blundell Jones (1995) criticises the unresponsiveness of the apartment in contrast with Scharoun's housing:

Everything has to fit the grid. The lifts and stairs occupy the central square, and the flats have to fit in with the outer ones. Rather than evolving from their internal needs like those of Scharoun, they are forced into orthogonal plans on the discipline of the system. The large flexible rooms are given minimal definition, their kitchens occupying internal corners, and the external boundary condition is standardised, so the windows cannot respond to room uses, and there are no balconies.<sup>68</sup>

Likewise, modern housing projects by the most representative rationalist ideologues retained serious problems in themselves. Nevertheless, the less-mature rationalism spread fast to Asia and Latin America beyond western countries in the post-war period. What was worse is the fact that the 'rational' theories of mass housing and urban planning were just transplanted to heterogeneous soils without deep consideration of different cultural contexts. Among many cases, representative examples are the new town plans for Chandigarh by Le Corbusier and for Brasilia by Lucio Costa (1902- ) and Oscar Niemeyer (1901- ) in the 1950s. Particularly, the design of Chandigarh has been criticised severely owing to the negligence of the regional traditions,<sup>69</sup> and so modern architecture gave the local people hygiene at the expense of

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<sup>68</sup> Blundell Jones, P. (1995) *Hans Scharoun*, Phaidon, London, p. 129.

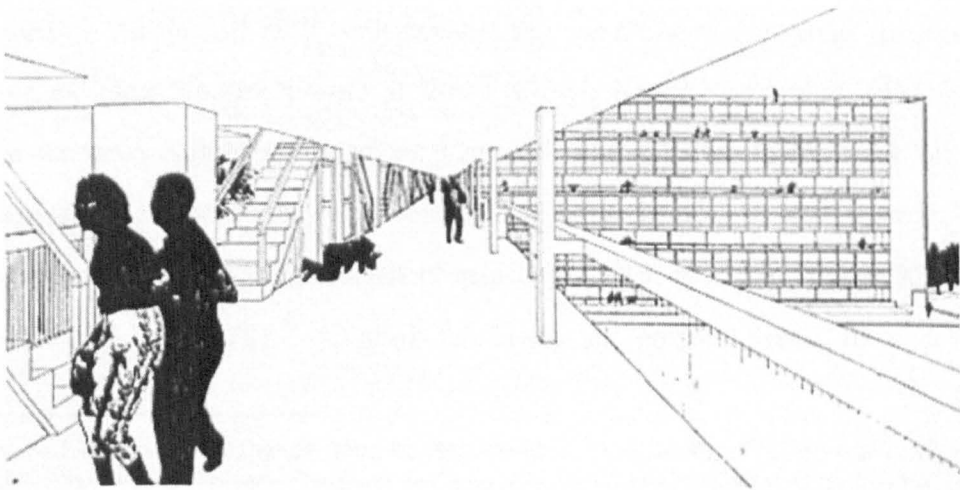
<sup>69</sup> Brolin, B. C. (1976) *The Failure of Modern Architecture*, Studio Vista, London. Also, see Brolin, B. C. (1972) 'Chandigarh was planned by experts, but something has gone wrong.' *Smithsonian*, pp. 56-63.

culture. Brolin (1976) properly pointed out modernists' wrong belief that the modern ideology must be 'universally relevant to the modern industrial world because it advocated rational planning'.<sup>70</sup>

[Fig. 30] Chandigarh view



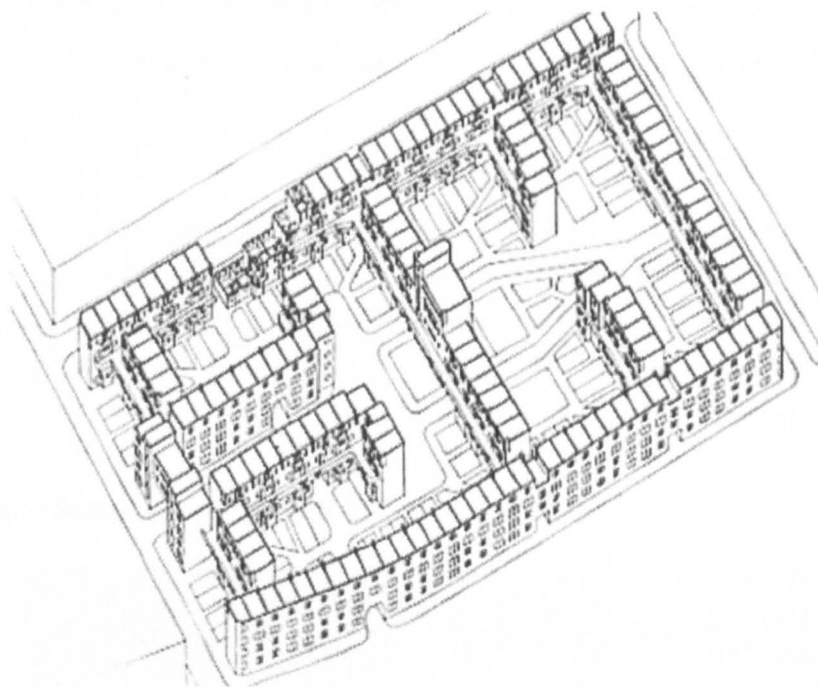
[Fig. 31] Golden Lane Deck Housing project, 1953



<sup>70</sup> Brolin, B. C. (1976) *op. cit.* p. 88.



[Fig. 32] Spangen Housing in Rotterdam by Brinkman, 1919-21



In 1950s, a group of young architects, named Team X,<sup>71</sup> defied their old masters' mechanical functionalism and proposed another functionalism 'accepting the realities of the situation, with all their contradictions and confusions, and trying to do something with them', of which architecture 'can make meaningful the change, the growth, the flow, the 'vitality' of the community'.<sup>72</sup> Alison and Peter Smithson, leading members of the group, presented the Golden Lane Deck Housing project in the 9<sup>th</sup> CIAM, Aix-en-Provence in 1953 so as to 'replace the functional hierarchy of the Charte d'Athènes' with 'a hierarchy of human associations'. To achieve it, they suggested 'a multi-level city with residential streets-in-the-air', which could express various levels of association: THE HOUSE, THE STREET, THE DISTRICT, and THE CITY.<sup>73</sup> Although the Smithsons' proposal was a more developed

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<sup>71</sup> They are J. B. Bakema (Holland), Aldo van Eyck (Holland), G. Candilis (France), A & P. Smithson (England), Shad Woods (France), Giancarlo de Carlo (Italy), J. Coderch (Spain), C. Pogni (Hungary), J. Soltan (Poland), and S. Wewerka (Germany). Smithson, A. (ed.) (1968) *Team 10 Primer*, Studio Vista, London, p. 2.

<sup>72</sup> Banham, R. (1966) *op. cit.* p. 72.

<sup>73</sup> Smithson, A. (ed.) *op. cit.* pp. 76-78.

version of street concepts in Corbusier's *redent* blocks and in Brinkman's Spangen Housing (1919-21),<sup>74</sup> it was also not enough to recapture 'the vitality of the community' and the four levels of association. Frampton (1975) pointed out a critical defect of the street-in-the-air concept:

Brinkman (like the Smithsons after him in the 50's) conveniently overlooked the fact that such a street is inevitably one sided and only partially enclosed and that in any event its width is hardly likely to be adequate for all the uses to which it is theoretically dedicated.<sup>75</sup>

**[Fig. 33] Demolition of Pruitt-Igoe apartment blocks in 1972**



On the other hand, there was a historical event in the architectural world in July 1972. It was the demolition of 14-storey Pruitt-Igoe apartment blocks (1951-55) in St Louis of Missouri, US. The housing, for which the architect Minoru Yamasaki (1912-86) was awarded an AIA prize, followed faithfully the doctrine of CIAM. However, it could not endure incessant

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<sup>74</sup> Four-storey Spangen Housing in Rotterdam (1919-21) by the Dutch architect, Brinkman has a continuous deck on the third floor, which functions as a street and beyond. Frampton, K. (1975) 'The Evolution of Housing Concepts 1870-1970', *Lotus International*, no. 10, pp. 24-33 and Sohn, S. K. (1993) *op. cit.* p. 326. And concerning the criticism against this housing proposal, see Eisenmann, P. (1973) 'From Golden Lane to Robin Hood Gardens', *Oppositions*, no. 1, September 1973, pp. 27-56.

<sup>75</sup> Frampton, K. (1975) *op. cit.* p. 27.



vandalism possibly owing to 'the long corridors, anonymity, and lack of controlled semi-private space' and also to 'a purist language at variance with the architectural codes of the inhabitants',<sup>76</sup> and it finally had to be destroyed with explosives. Postmodernists proclaimed this destruction as a signal of the death of modern architecture, and suggested 'Radical Eclecticism' as an alternative.<sup>77</sup> But it cannot but be a fallacy to expose oneself to chaotic relativism. If so, what is the alternative to modern mass housing? There is a feasible solution that has been raised: low-rise high-density housing.<sup>78</sup> Ironically, it was Le Corbusier who foreran 'this return to a low rise paradigm' according to Frampton (1975) and 'by the late 50's, the English, under the influence of Le Corbusier, were already oriented towards the adoption of low rise housing as a general policy.'<sup>79</sup> As far as high density is guaranteed, low-rise housing is more advantageous than high-rise housing in many aspects like physical, social, cultural and psychological environments. Nevertheless, low-rise housing cannot answer all questions only with the high-density condition. We need something to fill the holes in modern mass housing history. Can't Alvar Aalto's housing play the role in a degree?

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<sup>76</sup> The former reasons were raised by Oscar Newman in [Defensible Space] and the latter by Jencks. Jencks, C. (1977) *The Language of Post-Modern Architecture*, Rizzoli, New York, p. 3.

<sup>77</sup> *Ibid.*

<sup>78</sup> Sohn, S. K. (1993) *op. cit.* pp. 327-334. The new direction to low-rise high-density housing in Britain in 1960s was well illustrated with 25 case studies in Haward, B. et al (ed.) (1967) 'Housing Primer', *Architectural Design*, vol. 37, September 1967, pp. 395-433. And, the architectural critic, Kenneth Frampton has worked 'as co-designer for a low-rise high density housing estate built for the New York Urban Development Corporation in the Brownsville area of Brooklyn. The initial project for this housing formed part of a major exhibit staged at the Museum of Modern Art, New York, in 1972. Frampton was responsible for the design of this exhibition and for the preparation of its title catalogue: *Another Chance for Housing: Low-Rise Alternatives.*' Quoted from Salokorpi, A. (ed.) (1985) *Classical Tradition and the Modern Movement*, The 2<sup>nd</sup> International Alvar Aalto Symposium, Jyväskylä, p. 219.

<sup>79</sup> Frampton, K. (1975) *op. cit.* p. 28 and 31.

## List and Source of Illustrations

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\* If not noted, **drawings of the Villa Mairea** were taken from **Tzonis, A. (ed.) (1994b)** *The Architectural Drawings of Alvar Aalto 1917-1939, Vol. 10, Villa Mairea, 1938-1939*, Garland Publishing, Inc. New York and London.

\* If not noted, **drawings of Aalto's own house and Gullichsens' former flat** were taken from **Tzonis, A. (ed.) (1994a)** *The Architectural Drawings of Alvar Aalto 1917-1939, Vol. 6, Aalto's Own Home in Helsinki, Finnish Pavilion at the 1937 World's Fair in Paris, and Other Buildings and Projects, 1932-1937*, Garland Publishing, Inc. New York and London.

\* If not noted, **other figures** (photographs, drawings, computer models, etc.) were produced by **author**.

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## **Chapter 6. New Individualism in Existenz-Maximum: Aalto's Collective Housing**

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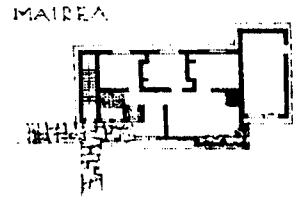
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HYON-SOB KIM AND PETER BLUNDELL JONES  
**VILLA MAIREA, THE LOST MEMORIES**

**V**illa Mairea (1937–39) has long been regarded as an important house. To clients Harry and Maire Gullichsen (1903–54; 1907–80), it was the statement of an ambitious younger generation in a small town, Noormarkku, and was intended to surpass earlier houses of the Ahström family. To the architect Alvar Aalto (1898–1976), the project was an incomparably good opportunity because of the freedom permitted and the generous budget. Since both the clients and the architect considered the house an experimental laboratory, it could pass through various metamorphoses with countless sketches before definition in an optimised final plan. Nonetheless, most studies on the Villa Mairea up to now have concentrated mainly on the final building without much consideration of the development. This is at least partly due to the limited access for outsiders to Aalto's drawings and documents during his lifetime.<sup>1</sup> Only after Aalto's death in 1976 could the material start to be ordered by his friend Göran Schildt with the help of the Alvar Aalto Foundation and Archives, and it was only in 1994 that Garland Publishing, Inc. published Aalto's drawings from 1917 to 1939, making them available to general researchers.<sup>2</sup>

Before this publication, some researchers – PEARSON (1978), PORPHYRIOS (1982), PALLASMAA (1985), SCHILDT (1986) and WESTON (1982) – presented various early versions of the *Villa Mairea*. But only a few drawings – often different ones in each book – were shown and they were not described in depth because the writers' main concerns were not the house's design process. In 1998,

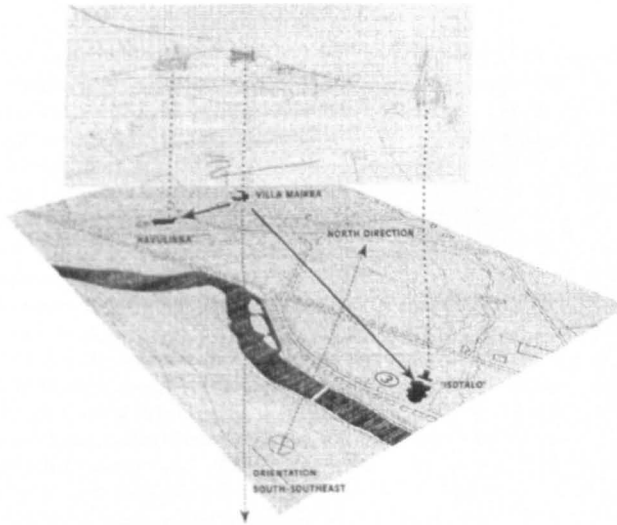
▲ (Fig.1) Aalto's first proposal for the Villa Mairea in late 1937 (PORPHYRIOS, 1982, p. 57).

the Alvar Aalto Foundation and Mairea Foundation with Juhani Pallasmaa as editor published a monograph on the house attempting to cover all the design phases, but analysis and interpretation was restricted in relation to the multitude of drawings printed.<sup>3</sup> There is room, therefore, for a further look at the evolution from the initial sketches to the final plan.

**From egg to trout: design evolution of Villa Mairea** AALTO (1948) compared the process of designing a building with the growth of a trout. Just as a trout needs a long time to grow up from a tiny egg among thousands in the spawn, so the *Villa Mairea* was created through a long process from a number of initial ideas. The nearest thing we have to an egg is a first proposal for the house as a rustic hut with a rectangular plan and a pitched roof dated late 1937 (Fig.1). Strangely, this preliminary version is found only as a single plan in Porphyrios's book. Nevertheless, it is important because of the implied vernacular reference. The plan shows an access road paved with rustic stone, a living room with a fireplace, a tiled space (possibly a bathroom), a staircase, several other rooms and a slightly protruding large room attached to the right side of the main block, possibly a studio. Porphyrios claims that MAIRE rejected this proposal because she wanted "something Finnish but in the spirit of today", and from then on,

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▲ Fig 21 Orientation on the basis of the three houses' relation. TOP: ALVARO ALTO MUSEUM, BOTTOM: SITE PLAN BY TEEMU TOIVIO AND PETER MACKETH IN 1991.

Aalto tried new ideas, which we can pursue through the remaining drawings.

The Alvar Aalto Archive contains over 800 drawings of the *Villa Mairea* (84/150–84/991, and some uncatalogued ones). According to the Garland book, the drawings were classified as 'sketches, 1938–1939' (approximately 240 drawings), 'early versions, 1938' (18 drawings), 'Proto-Mairea, 1938' (19 drawings), 'final version, 1938–1939' (approximately 500 drawings), 'later alteration drawings' (11 drawings), and 'later measurement drawings, 1991' (9 drawings). This book is valuable for gathering the material, but since most drawings before the 'Proto-Mairea' were not dated, the sequence is open to interpretation. Pallasmaa (1998) has provided the best guide and assembled the drawings into a credible sequence. He divided the whole design process into 9 'sketch phases': 4 phases of early 'sketches', 3 phases of 'early versions', one phase of 'Proto-Mairea' and a last phase 'final version'. This is helpful, but the first 4 phases blur into each other, and differentiating the early sketches is problematic. In this essay, therefore, we will divide the design process into 4 stages: initial sketches<sup>3</sup>, early versions, 'Proto-Mairea', and final. We further subdivide the early versions into 3 phases. In addition, on the basis of the drawings and our analysis,

we reconstructed the house at each stage using a computer programme, which helps in reviving the lost memories of it.<sup>6</sup>

**Stage One: Initial Sketches (Early 1938, possibly around January and February)** The house is sited in a pine forest on almost the highest hill in the Ahlström estates of Noormarkku, although the slope is not very steep. The chosen location lies 100 metres northeast of the *Havulinna*, and 500 metres northwest of the *Isotalo*, the earlier family houses. Some of the presumably earliest

sketches, 84/215 (Fig.2) and 84/164 (Fig.3), show a concern with the relation of the three to the Noormarkku landscape. The *Isotalo* sits beside Noormarkku River, the lowest level, and the *Havulinna* occupies the left hillside, while the *Villa Mairea* takes the top. From the start, the house could hold its two rivals in check or at least 'conceptually' look over them southward, while securing its own courtyard behind. The living room continually faced southeast, towards a gap between the two former houses. Of course, this orientation was also related to the movement of the sun. The drawing, 84/213 shows with arrows how sun enters in the morning, at noon, and in the evening.

Aalto had developed the concept of a courtyard enclosed by the L-shaped house and walls. Although closed on all sides, it remained open to the house and it had its own swimming pool and fireplace from the start. In earlier sketches the courtyard was rectangular, but after a pergola was added to the southwest wall, the court spread its wings towards the filtered opening and became trapezoid. Interestingly, a roof was added to the exterior walls in later sketches (84/166 and 268, Fig.5), which made a kind of cloister. The L-shaped body of the house is important not only because it encloses a courtyard, but also in reference to the 'aristocratic Scandinavian residence' (Porphyrios, 1982) that showed hierarchy

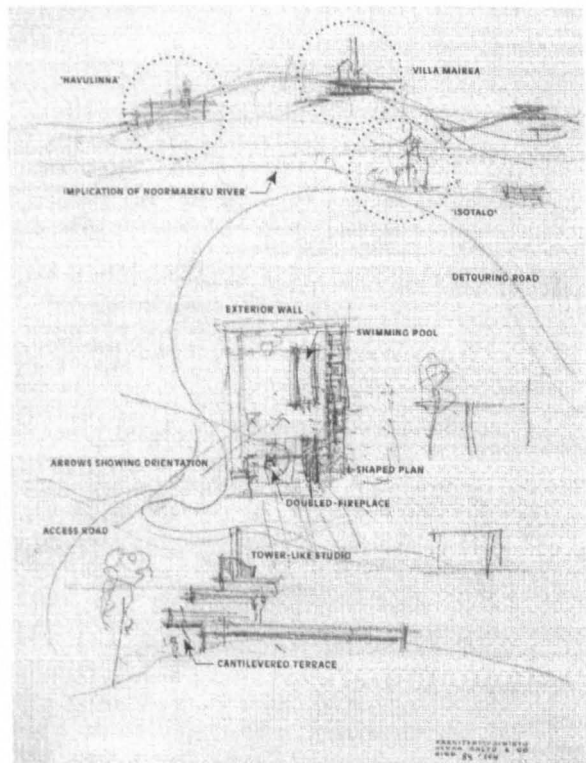
in its wings.<sup>7</sup> In *Villa Mairea* the southeastern wing of living rooms is hierarchically superior to the northeastern one of servant spaces. In sketches such as 84/164 (Fig.3), 293 and 295, we see a doubled-fireplace between inside and outside. One faces the living room, and the other the courtyard. Some arcs around the fireplaces and radial lines from each express the architect's intention to combine inside and out. It suggests that the courtyard was regarded as an outdoor room. On the other hand, the swimming pool had been a long rectangle located at the northern corner of the inner court. Sketches, 84/221 and 268 (Fig.5) show a sauna and a diving board as well as a pool. The diving board in sketch 84/268 (Fig.5) plays an important role in relating the sauna and the pool. It seems more Finnish, reflecting the Finnish custom of a plunge following a spell in the sauna.

The influence of FRANK LLOYD WRIGHT'S *Fallingwater* is discussed by many authors (Schildt, 1986; Weston, 1992; Pallasmaa, 1998). Aalto was strongly impressed by the dramatic cantilevers of Wright's *tour de force*, and he tried the same effect with the *Villa Mairea*. Sketches show a bold terrace, a serpentine basement, and tapered columns in many sketches (84/164 (Fig.3), 202, 213, 278, etc.). Although these ideas dwindled, *Fallingwater*'s impact remained as a leitmotif through the whole design development, even if it became less visible, for it prompted a play with level changes that remained almost to the end. Another important element for the development of the design was Mairo's studio, which affects the whole in two ways: as a volume in the outside; and as an undulating wall within. The former is shown well in the elevation of sketch 84/164 (Fig.3). The studio, positioned on top of several horizontal layers, pierces them vertically as the centre of gravity.

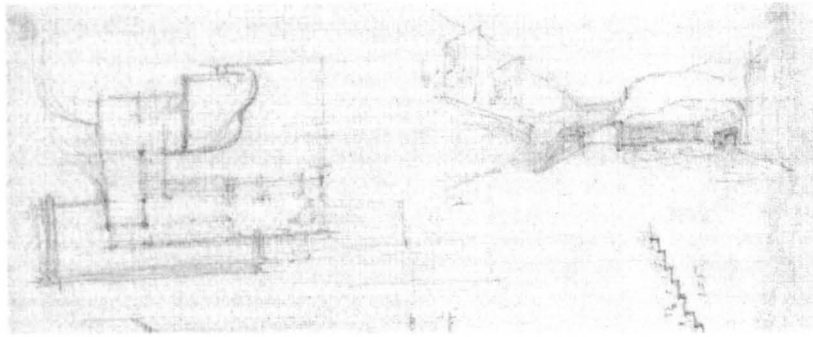
- (Fig.3) Sketch showing most of *Villa Mairea*'s concepts. In the upper part: a landscape sketch showing the hill and river of Noormarkku and the relation of the three houses. In the middle: a site plan. Below: the side facade showing the ground level, the horizontality of the house, the cantilevered terrace and the tower-like studio. ALVARO AALTO MUSEUM.

Moreover, it already has a curved roof, a perpendicular mast and vertical cladding. On the other hand, the studio's interior undulating wall has been studied more deliberately not only with plans but also with interior perspectives from different angles (Fig.4). According to the sketches, the studio forms a mezzanine floor alone, and we arrive there by climbing open stairs. Opposing the relatively simple rectangle of the living room, this studio wall creates a diversified interior landscape, which alludes to Finnish nature. This curvilinear element is not only a romantic factor but also a very rational invention, according to ZEVÍ (1945). For as in the *Finnish Pavilion in New York of 1939*, the undulating studio wall offered an enlarged exhibition area for the art collector client.

Although it might be over-ambitious to attempt defining a sequence of all the



drawings, we can assemble a selection to reveal the developmental sequence of the design (Fig.5). We limit the drawings to plans because they were more decisive and more articulated in this stage. Sketch 84/215 is possibly the earliest drawing showing a rough form of the house and site. It developed into 84/164 that shows an L-shaped house, a rectangular courtyard, a vertically long swimming pool, and a doubled-fireplace. In 84/197, we can see



▲ (Fig.4) Studio's undulating wall study  
ALVARO AALTO MUSEUM

the change of the courtyard's shape and the opening in the left side exterior wall, and also an attempt at stepping the plan to improve the orientation. The plan becomes more interrelated with the contour in 84/251, and the whole configuration of the house in 84/268 is very similar to that of the first early version. It has a roof on the exterior walls and a pergola in the left-side opening. Moreover, the swimming pool with its diving board is rotated to the horizontal and what is presumably a sauna hut appears in front of the pool.

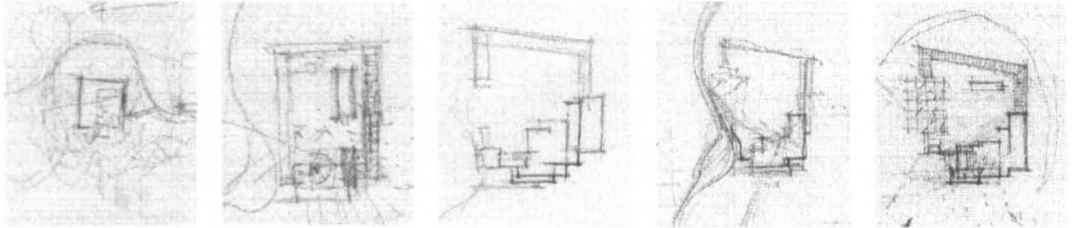
**Stage Two: Early Versions (Early 1938 before April)** Through many sketches, Aalto had explored his ideas for the design, and from this stage, he started making drawings more accurately with drawing instruments. We will divide the early versions into three and name them Early Version 1, 2 and 3, which comply with Pallasmaa's 'Sketch Phase 5, 6 and 7' with some additions. At this stage, Aalto drew mostly floor plans, elevations and sections of each version. At one point, he also used a model to gain a deeper understanding of the design evolution.

<Early Version 1>

We interpret the plans 84/387, 407 and 440 (Fig.6),<sup>9</sup> the elevation 84/418, and the section 84/415 as the drawings of Early Version 1. Pallasmaa presented the model as evidence of this phase, but the drawings and model do not match exactly (e.g. the studio shape), although most other parts accord well.<sup>9</sup>

This first early version leads naturally on from the development in the initial sketches. The main body of the house has a stepped L-shaped plan, and the courtyard is trapezoid. There is a cloister, which has roofs sloping down towards the inside and a row of columns along the exterior wall. The curved southern corner following the contour is a vestige of Aalto's topographical concerns. We enter the house from the

corner, set at ground level but lower than the courtyard plateau. In the entrance hall, we find a cloakroom to the right and turn left up a stair to the main floor. Here we find a large reception room with a massive fireplace. A serpentine line suggests the studio above our heads. We turn to climb another stair to the next level, arriving at a sitting room (OLOHUONE), which has three columns and large windows with trellis mullions facing south and east. Thus despite the skewed orientation given by the site, the two main living spaces are open diagonally towards south and sun. A further stair set above that from the entrance leads on up to the studio at higher level. The sitting room can be opened to a terrace, which was intended to show a dramatic 'Fallingwater effect'. The terrace is paved with rustic stones and connected to the courtyard by an outside stair. There is a library (KIRJASTO) in the right side of the sitting room. Interestingly, the library has a series of partition walls, which might be open to the living hall in the main floor.<sup>10</sup> In the plan 84/440 (Fig.6), the servant wing and the dining area were drawn in



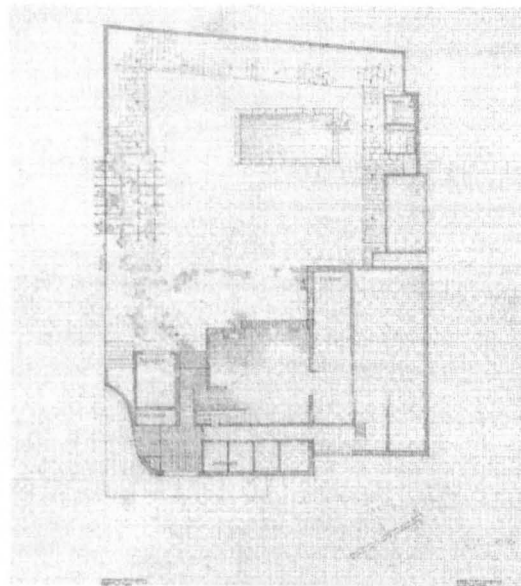
detail. Particularly, the dining area was divided into two: one is a large dining room (RUOKASALI) with a long dining table and many chairs; and the other a breakfast room (AAMIAISHUONE) with a round table. The breakfast room has a small conservatory, which allows the family to enjoy greenery with morning sun at breakfast.<sup>11</sup> In the courtyard, we find a pergola on the south side of the cloister, and a rectangular swimming pool in front of the sauna. The cloister has a floor pattern of rustic stone as in the cantilevered terrace. This rustic stone pattern gives consistency to the exterior space, even appearing in the rim of the pool.

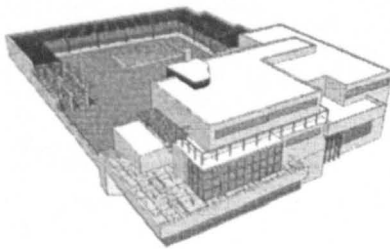
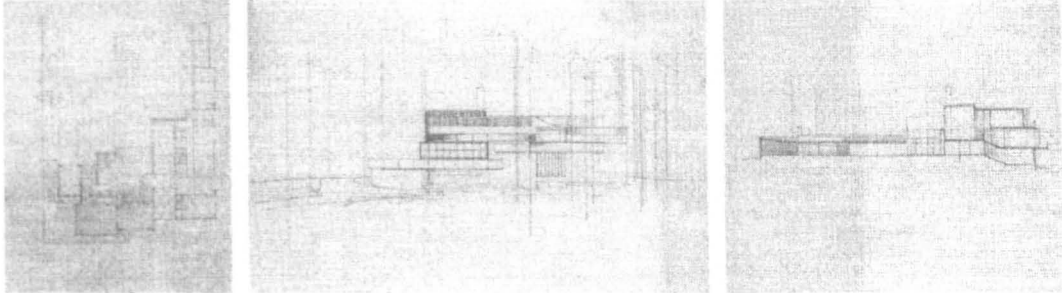
<Early Version 2>

From Early Version 2 (Fig.7) onwards, the drawings match each other well. This version developed from Early Version 1 but differs from it in many ways. Instead of the many-stepped plan, the house now takes the more disciplined form of two rectangular blocks with a waist-like link. The access also changes, with the road made parallel to the south-east side of the house, and the entrance changed accordingly. Furthermore, entry was divided into two: a main entrance in the middle of the front façade, and a service entrance in the servant wing. A roundabout in the right corner of the house serves delivery vehicles. Because the main entrance is repositioned, the interior circulation changes. Entering the front door, we face a staircase leading to the main floor, with a complicated living area in the southern wing because of level changes. The main hall (HALLI) is lowest, and a sitting room (OLOHUONE) and a library (KIRJASTO) are 4 steps up, preserving the diagonal relationship in Early version 1.

From the sitting room level we can reach the studio in the mezzanine floor (double height) by climbing a stair, which continues to the upper floor. The studio divides the main hall into two spaces: the fireplace area has a lower ceiling beneath the studio, the rest of the room a higher ceiling under the top floor.<sup>12</sup> This promised a dynamic interior landscape. On the other hand, the servant wing is little changed except that the line between service and dining room now coincides with the boundary wall of the courtyard, as though service and servants are excluded from the central precinct. The dining area was designed more elaborately, with the round breakfast table set aside from the main table's axis, and the breakfast room

- ▲ (Fig.5) Setting plans in developmental sequence ALVARO AALTO MUSEUM
- ▼ (Fig.6) Early Version 1: 'basement + main floor' plan, ALVARO AALTO MUSEUM





has plants around the table instead of an independent conservatory. The upper floor is more private because it has many bedrooms. The master's and mistress's

bedroom are detached by the studio. To right of the parents' area is a children's area composed of a children's hall (LASTEN HALLI) and a series of four bedrooms. Outside the cloister is weakened, for the exterior wall loses its roof and rustic paving. Another interesting thing is the change in the pool, which loses its rectangular shape in favour of a flowing curve. This marks a further step towards natural form on Aalto's part.

<Early Version 3>

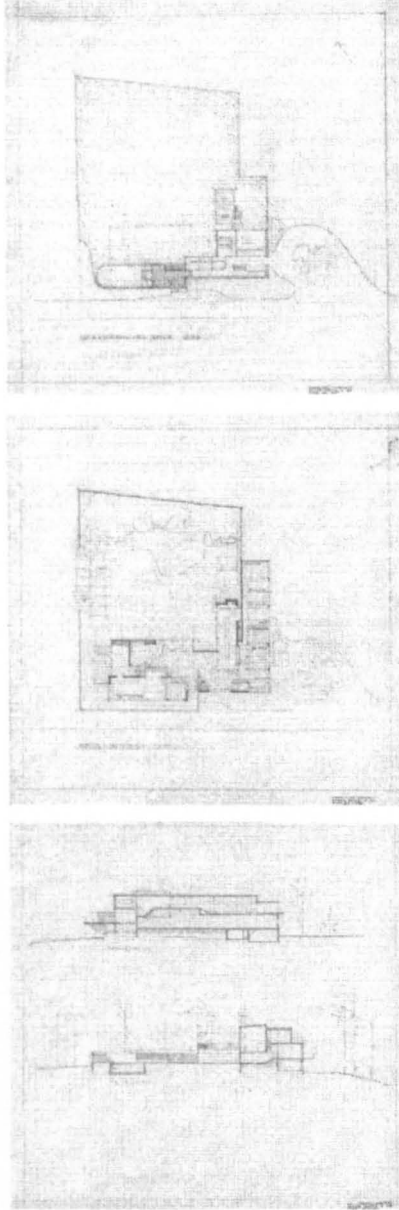
Early Version 3 (Fig.8)<sup>13</sup> follows the former versions faithfully in most ways. Significantly, however, the studio is raised from the mezzanine to the upper floor. This means that the studio height is reduced, and the split-level ceiling of the main hall is lost. The complicated floor levels of Early Version 2 probably caused Aalto to simplify the plan. He moved the main staircase across eastward to place it as the pivot between the two blocks of building. There is now one circulation core: from basement to upper floor, we have only to follow the counter-clockwise stairway to reach every floor. The level change between the lower

and upper living rooms finally lost all its diagonal emphasis, instead being defined by a set of five continuous steps running across the plan to intersect with the stair. Since the client was an art collector, the raised room became a combined sitting room and exhibition hall, which lays an underplot for the final version. The gridded partition system for picture screens gives a hint of the open structure to come. As a result of these changes, the undulating interior wall of the studio, an important theme until now, disappeared forever from the house. In the upper floor, we find the studio in the position of the former mistress's bedroom, and Maire's and HARRY's bedrooms are now combined symmetrically back-to-back. Although the studio lost its 'undulating wall', it was given character in other ways. The corners were rounded off, and the roof tilted to the south in opposition to previous versions, but soon it would tilt north again. The courtyard also changed: most significantly, the containing wall opened at the pergola to introduce a stair linking the outside world with the secret garden. Other changes were that the pool shape became half rectangular and half curved, and the northwestern corner of the wall was rounded off like the studio corners.

**Stage Three: 'Proto-Mairea' (April 1938)** Schildt (1986) used the name 'Proto-Mairea' (Fig.9) for the first completed design<sup>14</sup> of the house because the foundations were excavated following this design. Although it shares basic ideas with earlier versions, there are also many changes, of which the develop-



- ◀ (Fig.6) Early Version 1: The 'main + mezzanine floor' plan, the southeast elevation and the longitudinal section. ALVARO AALTO MUSEUM.
- ▲ The computer 3D model. HYUN SOO KIM.

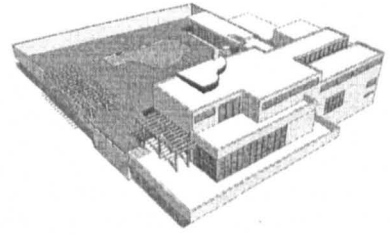


VILLA MAIREA, THE LOST MEMORIES

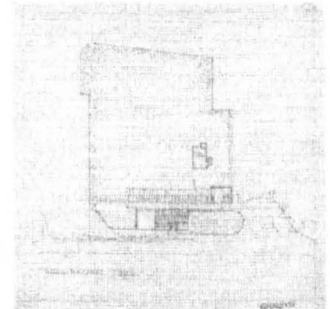
ment of further curved walls in the basement (84/404) (Fig.9) is the most interesting. The exterior wall follows the contour line, and the interior wall of the entrance intends to

maintain continuity with it. Accordingly, the interior spaces defined by the walls became free-formed. Especially in the toilet plan, there is no geometrical regularity, but rather shaping according to use and movement, in the manner of HUGO HÄRING's *Organisches Bauen*.<sup>15</sup> Arriving at the main floor on climbing the stairs, we gain a view over most living areas. The counter-clockwise vertical circulation is almost the same as in the Early Version 3, but in a further strengthening and simplification the five steps between upper and lower living rooms are shortened and absorbed into the main stair. The main fireplace is located at the western corner with behind it a staircase to Maire's studio in the upper floor. Unlike the former version, the 'Proto-Mairea' has an independent art gallery (TAIDEHALLI) attached to the inside of the northern wall. This is significant because it strongly tells us the house's *raison d'être*. The long rectangular gallery has six skylights with shell-shaped louvres, reminiscent of the top lights in the *Finnish Pavilion in Paris of 1936-37*. Aalto's concern for natural light is also revealed in the section of the children's hall (84/416) in the upper floor.

As with the 'basement curved wall' and 'natural lighting system', we find further



- ◀ (Fig.7) Early Version 2: The basement plan, the main floor plan and the sections. ALVARO AALTO MUSEUM.
- ▲ (Fig.7) The computer 3D model. HYUN SOO KIM.
- ▼ (Fig.8) Early Version 3: A. The basement plan. ALVARO AALTO MUSEUM.

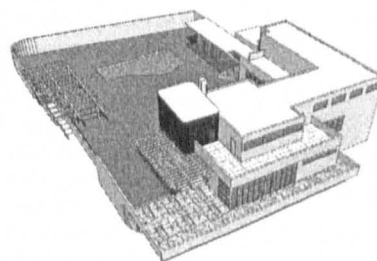
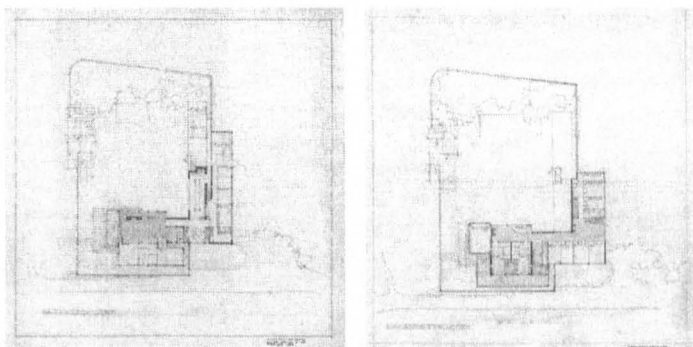


evidence of Aalto's fondness for natural form in the outside. It occurs in the terraced courtyard, the amorphous swimming pool and the negative contour effect of the pool. Up to Early Version 3, the courtyard had been flattened artificially in deliberate contrast with the natural contours, using the perimeter wall to retain the difference where necessary, but now Aalto introduced three terraces following the terrain. They are distinguished by two strands of contour lines, each terrace making a 0.5m drop (-1.1/-0.6/-0.1). If we ascend the stair arriving from the outside world beneath the pergola, we arrive at the lowest terrace, and go on to ascend two further layers. Situated between the highest terrace and the middle one, the swimming pool's shape engages the level change, seen in the longitudinal section (84/414) (Fig.9) as well as in the plan. In earlier versions, the pool had right-angled corners in plans and rectangular faces in sections, but now both disappeared in favour of a treatment more like a natural pond. Technically speaking, the curved shape section is more effective in preventing the concrete shell of the pool from cracking, by making it like a boat floating on the subsoil (Architectural Forum, 1940; Fleig, 1963). The final version's pool sections (84/454, Fig.10) illustrate its negative contour more vividly.

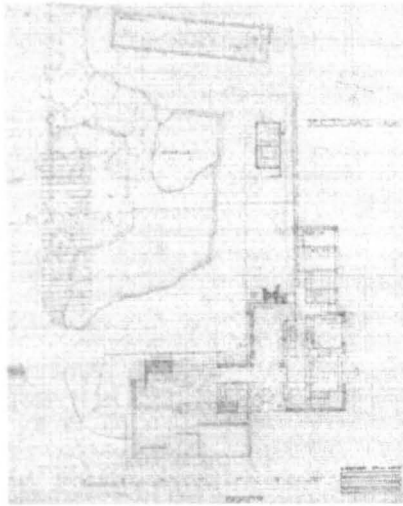
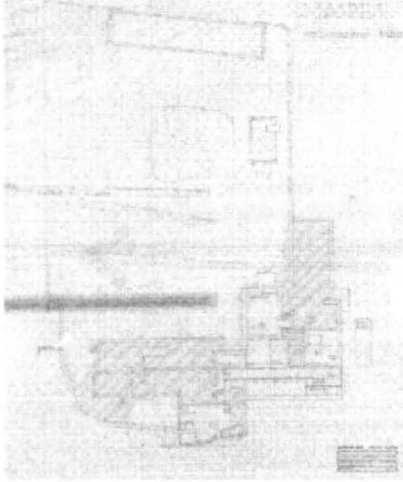
There are many significant changes in the exterior. First, the studio shows most of its body in the left side of the front façade, due to its repositioning in the upper floor.<sup>16</sup> It adds an accent in the façade, following

the initial concept 'studio as a volumetric point'. Second, a vault over the children's hall on the upper floor exists only in this version. As well as celebrating an interior for use as a playroom, it seems to have been intended to break the monotony of the east elevation. Lastly, the suspended terraco roof with eight cords is salient. Pallasmaa (1998) related the steel cords with guitar strings in a Cubist collage, perhaps an apt metaphorical interpretation, but it does not tell us the practical reason. At this stage, the courtyard was made wider toward the north side by setting back the wall, which caused the length of roof to increase between sauna and dining room. It needed further structural support, and Aalto used suspension cords rather than columns to avoid visual obstacles. This structural experimentation did not survive into the last plan, however.

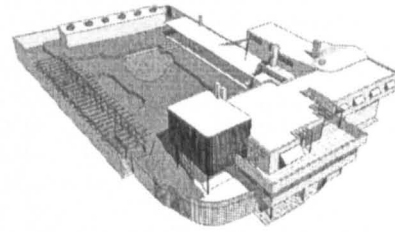
**Stage Four: Final Version (May 1938 to January 1939)** Although construction started according to the drawings of the 'Proto-Mairea', Aalto was not satisfied<sup>17</sup> and decided to alter the plan again. He transformed the southern wing into one big square room (approximately 14m x 14m), which has a winter garden in the western corner and a



◀ (Fig 8) Early Version 3 The main floor plan and the upper floor plan. ALVARO AALTO MUSEUM  
▲ The computer 3D model. WYON-508 KIM

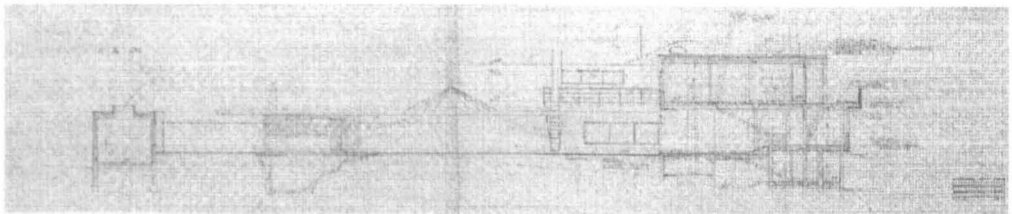


- ▲ I Fig.91 'Proto-Mairea': The basement plan and the main floor plan. ALVARO AALTO MUSEUM
- ▲ The computer 3D model. HON-SOB KIM.
- ▼ The section. ALVARO AALTO MUSEUM.



small flexible space with partitions in the opposite corner. The large living room with partitions was also intended to function as an art exhibition hall.<sup>10</sup> Aalto (1939) thought the movable partitions could serve 'as cabinets for the artworks', which could make it easy to change the displayed artworks. However, the later alteration in 1941 (84/927-929) suggests that this was not very successful.

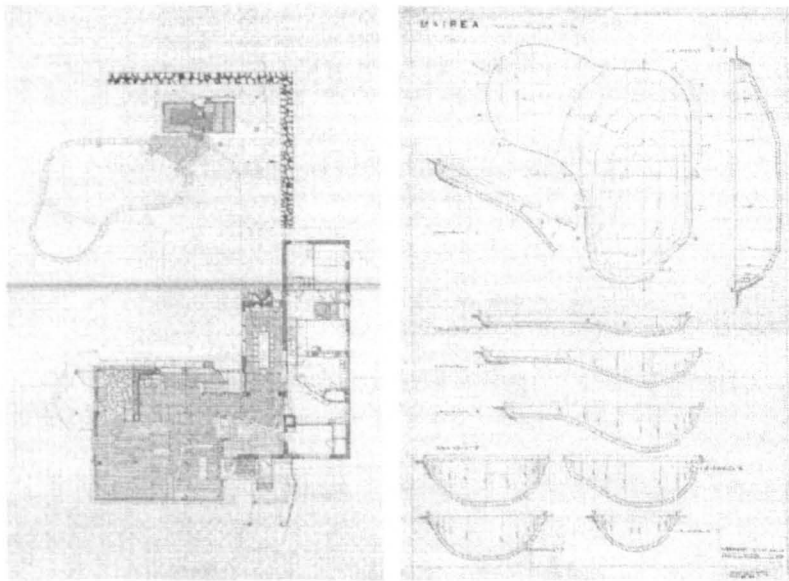
With the removal of the studio to what is almost a separate turret, the 'Proto-Mairea' had already suggested the living rooms as one almost square plan area, but the interacting level changes still made it a highly complex volume. The raised external terrace on the southern corner and its supporting wall were expensive items and would draw attention away from the focal garden or court that had been the starting point for the house. So just as he had earlier done with the plan, Aalto now simplified the section, finally liberating himself from his obsession with Wright's *Fallingwater*. Instead of the multiple interacting levels there were essentially two flat floorplates, and the whole enclosing apparatus around the west side – retaining walls, pergola, artificial contours – was



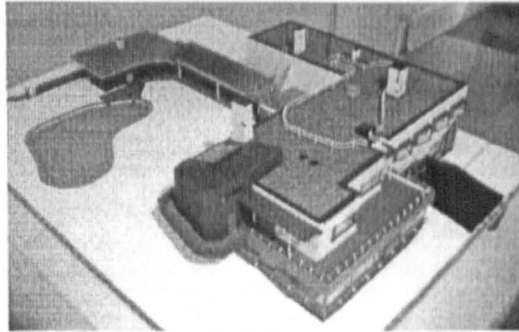
abruptly abandoned. Aalto also abandoned his basement entrance, moving it to the ground floor where the breakfast room had been, and absorbing the rise in level partly with external steps, partly with a sunken entrance hall (Fig.10). The only hint remaining of the previous stair is the flight of four steps rising from this entrance hall to the main living room, for the main stairs leading to the upper floor were now shifted to the corner of the court, still linking the two bodies of building. The main living room became not only a flat plane but also a modernist free-plan, interrupted only by columns, and played for its spatial ambiguity. The differentiation between its two halves was now effected by an added wall and by a change from tiles to timber flooring. And unlike more doctrinaire modernists, Aalto did not choose to show the dominance of the columns as a regular structural grid: quite the reverse. He developed them further as individual elements, with different groupings, lappings, colours and materials. The upper floor underwent two significant changes. One is the south-facing bay window of the children's rooms, which shows Aalto's wish

to introduce the sun.<sup>19</sup> The other is the shape of the studio, which becomes trapezoidal like the courtyard of the former versions, something lost in this Final Version. Moreover, the studio has its own balcony protruding to the west, appropriately emphasising the status of the studio and of the mistress owner.

Besides the courtyard shape, there were also some changes in the outside. The shift of entrance caused the access road to change, branching off directly from the main road without running along the south side of the house. Aalto added a free-formed entrance canopy orienting the entrance slightly towards the road, and making visitors welcome. The canopy shape alludes to that of the *Paimio Sanatorium* (1929–33) with a similar symbolic function.<sup>20</sup> On the courtyard side the sauna hut moved to the former art gallery's position, the platform between the outdoor fireplace and the sauna being extended accordingly. The platform roof was finally supported by several columns rather than by the suspension cords of the 'Proto-Mairea'. Since the exterior walls had been removed, the courtyard's semi-enclosure was accomplished by L-



◀ Ifig 101 Final Version: The main floor plan and swimming pool drawings. ALVARO AALTO MUSEUM.  
 ▶ The model in Alvar Aalto Museum. PHOTO: HYUN-SOB KIM.



shaped low-height stone walls on the northeast side, an artificial hill behind the swimming pool, and some shrubs between the pool and the southern wing of the house. The stone walls brought Finnish vernacular rusticity to the modern house, along with the wooden sauna and its turfed roof. The hill, formed of earth excavated from foundations,<sup>21</sup> gently mediates between garden and outer world. It might be regarded as a counterpart of the terraced courtyard of the 'Proto-Mairea', and contrasts strikingly with the negative contours of the swimming pool. Another change is the relation between the swimming pool and the sauna. Connected by a single diving board in the 'Proto-Mairea', the two became more firmly related with many other wooden boards in this stage. Moreover, the boards, laid in parallel with the sauna in 84/441, were orientated towards the swimming pool in the end. It means that the final plan followed Finnish custom by relating the sauna and the swimming pool symbolically as well as practically.

**Conclusion** Studying the *Villa Mairea's* long design process reveals an extraordinary density of interwoven ideas, only some of which make it through to the final building. It is clear that Aalto was interested in context, topography, orientation, functional and structural articulation, social hierarchy, indigenous and modern architectural styles, daylighting, movement flow, structure, construction, texture of materials, weathering and many other things beside.

But these issues were not pursued one by one or established in simple form and retained, nor was there an underlying discipline of geometry or a dominant construction system that can be traced consistently through.<sup>22</sup> Rather, their influence was sought and tested, then absorbed into the maze of interacting ideas as the architect struggled to achieve an effective combination of themes which would work together harmoniously. It is also evident that the process involved stages of accumulation and assembly of ideas followed by counter-stages of simplification and reduction, a kind of differentiation followed by integration. The last of these simplifications after the 'Proto-Mairea' stage resulted in really dramatic changes to the building's character. These included the very late rejection of what throughout the process were two of the leading ideas: the enclosed plateau of courtyard and the cascading levels inspired by Wright. Both leave subtle traces in the final building, but no sense of their initial power, no clue that they had been such overriding concerns. Although many ideas disappeared during the design process, however, they reappeared in later designs: just to cite one example, in the undulating wall of *Finnish Pavilion at the New York Fair* (1939). In this way the experimental exploration of the *Villa Mairea* paid off. Aalto's sketches might also suggest to us the value of a 'stroke of a pencil' that preserves the vestiges of a design evolution and retrieves lost memories.

HYON-SOB KIM AND PETER BLUNDELL JONES

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- 1 Schildt, G. (1992) 'Introduction'. In Tzonis, A. (ed.) (1994) *The Architectural Drawings of Alvar Aalto 1917-1939*, Vol. 10, *Villa Mairea 1938-1939*, Garland Publishing, Inc. New York and London.
- 2 The drawing book had been prepared by the Alvar Aalto Archive in collaboration with the Museum of Finnish Architecture, Helsinki and the Alvar Aalto Museum, Jyväskylä, and particularly Göran Schildt's role was significant for it. *Ibid.*
- 3 Pallasmaa, J. (ed.) (1998) *Alvar Aalto: Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki.
- 4 Göran Schildt started using the term 'Proto-Mairea' to explain a design stage with which the foundation work began. Schildt, G. (1986) *Alvar Aalto: The Decisive Years, Helsinki*. New York, p. 154.
- 5 The 'sketches' of the Garland book includes all the free-hand drawings from an initial stage to the final design. But in this essay, the 'initial sketches' mean the sketches before the early versions.
- 6 Since the early versions do not have enough drawings and they do not match each other in some cases, it needs a leap of the imagination, especially in the details.
- 7 Also the case with two important Swedish precedents, Asplund's *Villa Snellman* and Lawrentz's *Villa Ahxner*.
- 8 Pallasmaa omitted this important plan 84/440.
- 9 Because of some subtle differences, the Early Version 1 can be subdivided again into three. EV 1-(1) of 84/387, 415 and 418; EV 1-(2) of the model shown in Pallasmaa (1988); and EV 1-(3) of 84/407 and 440. However, we regard them as one version here basing on the plans 84/407 and 440.
- 10 This accords with the interior perspective sketch 84/243 [Fig. 4].
- 11 The long dining room (table) and the conservatory must be a reflection of Gullichaens' former flat in Helsinki. See the drawing 81/28.
- 12 The Early Version 1 also has the same character.
- 13 In this version, Pallasmaa (1988) omitted the section 84/401.
- 14 Most numbered drawings of it were dated April 14, 1938, with one exception of the upper floor plan dated April 13. Tzonis, A. (ed.) (1994) *op. cit.*, p. 103.
- 15 For Hugo Häring's 'Organisches Bauen' (organic building), see Blundell Jones, P. (1999) *Hugo Häring: The Organic versus the Geometric*, Edition Axel Menges, Stuttgart/London. We have no evidence of direct influence: it seems rather to have been a parallel development.
- 16 This change must have occurred in the Early Version 3. But the front elevation drawing of it does not exist, so we mention it in this stage.
- 17 He thought that there were too many rooms in the house (Schildt, 1986), and that everyday life could not be combined with art with the separation of the art gallery.
- 18 As mentioned, this art exhibition hall shortly existed during the Early Version 3.
- 19 These bays are remarkably similar to a viewing window in Asplund's modest *Bäckström* summer house of 1934, which Aalto might have seen on drawings in Asplund's office which he visited frequently.
- 20 About symbolic, junctions and practical functions in the Mairea and Red House, see Kim, H. S. (2003) 'Fusion of Architecture, Art and Life: Red House and Villa Mairea'. In *Four Faces - The Dynamics of Architectural Knowledge*, Proceedings of the 20th EAAE Conference, Stockholm-Helsinki, pp. 85-86.
- 21 Pallasmaa, J. (1988) 'The Garden', *op. cit.*, p. 183.
- 22 We are sceptical of the geometric analysis offered by Pallasmaa and others (Quanzill, 1985; Pallasmaa, 1998; Jormakka et al., 1999) despite the apparent plausibility of the geometric coincidences shown if the building had been composed this way: the patterns or other variations of them would presumably be traceable in earlier versions.

# FUSION OF ARCHITECTURE, ART AND LIFE: RED HOUSE AND VILLA MAIREA

## Abstract

Philip Webb's Red House (1857-59) for William Morris and Alvar Aalto's Villa Mairea (1937-39) for Maire and Harry Gullichsen are historically important in many respects and they have interesting similarities to each other. However, I want to emphasise here two significant facts related to the theme 'Architecture and the Arts'. The first fact is that the architects and the clients of both houses attempted to fuse art and life within architecture, and the second fact is that they had a strong intention to spread the value to ordinary people's lives. As a result, Red House became a seminal building of the English Arts and Crafts Movement, and the Villa Mairea a precedent of a house integrated with modern art. The experimental spirit of both houses will remain as long as architecture and mankind exist. How to make the most of their experimental value is our task in another different century.

## Fusion of architecture, art and life

Considering the theme of 'Architecture and the Arts', I am reminded of two influential houses among many architectural works around the modern era. The one is Red House (1857-59) by Philip Webb (1831-1915) and the other the Villa Mairea (1937-39) by Alvar Aalto (1898-1976). For both architects actively included furnishings which are now considered works of art within the 'Architecture' through historically significant collaboration with their clients, and the two houses played decisive roles for the later careers of architects and clients in both cases. In the case of the 28-year-old architect Philip Webb, Red House was his first independent work, and its success spurred him on to greater experiment in his later career. William Morris (1834-96), the client for Red House, could establish his firm for design products and became the most influential arts and crafts pioneer. In the case of Alvar Aalto, the Villa Mairea constituted an experimental laboratory in which he was able to examine his progress up to then and to adjust the direction for the second half of his life. Lastly, the Villa Mairea's client Maire Gullichsen (1907-90), could not only do her artistic work there as a painter and art collector, but also drew her liberal reformist friends to the house.

## The Initiative of the Arts and Crafts Movement: Red House

Red House, which was the marital home for the versatile artist William Morris and the Pre-Raphaelite<sup>1</sup> model Jane Burden, was regarded as the seminal building of the English Arts and Crafts Movement. Since the German critic Hermann Muthesius highly praised the value of the house in the book [Das Englische Haus], 1904,<sup>2</sup> it has become a place of pilgrimage for architects and architectural students. According to Peter Blundell Jones,<sup>3</sup> the significance of this house lies in the fact that it reflected very well 'the theory and the practice of the previous couple of decades' beyond the Muthesius's and Nikolaus Pevsner's commendation<sup>4</sup>: that is, Pugin's 'True Principles' and John Ruskin's ideological background.<sup>5</sup> Furthermore, Blundell Jones was very prominent in stressing the 'psychological and symbolic' importance of the well in the courtyard and of the entrance porch, quoting Greenough's 'promise' of function. At any rate, nobody doubts the house's masterliness.

However, what I want to describe here is about the relation of arts (including crafts) and artists around the architectural masterpiece. Red House had meanings beyond a comfortable nest for the newly-married couple. Since they moved in to the house in 1860, the utopian socialist William Morris provided his artist friends<sup>6</sup> with a space where they could spread their wings. Meeting at weekends, they could play and talk together about their artistic dreams, and those days were



the happiest time of Morris's whole life. One of his friends wrote: 'O the joy of those Saturdays to Mondays at Red House!' <sup>7</sup> As a part of fulfillment of the dream, the house was decorated and furnished by Morris and his friends. For example, the architect Philip Webb executed most designs for the furniture, such as, tables, chairs, cupboards, candlesticks, table glass, etc. The walls of the staircase had murals 'of scenes from the War of Troy' by Burne-Jones. Of course, Morris himself also designed tapestry and flower-embroidered cloth. <sup>8</sup> We can see Morris's high standard and creative passion for art works in Mackail's description: 'Not a chair or table, or a bed; not a cloth or paper hanging for the walls; nor a curtain or a candlestick; nor a jug to hold wine or a glass to drink it out of, but had to be reinvented, one might almost say, to escape the flat ugliness of the current article.' <sup>9</sup> And it accords with what Ruskin said, 'Before you attempt to build great churches and palaces you must build good house doors and garret windows.' <sup>10</sup>

As a result, the house became a 'palace of art' <sup>11</sup> containing various arts and craftworks which are deeply related to daily life, and the group went on to found Morris, Marshall and Faulkner & Co. in 1861 to produce arts and crafts works related to 'painting, carving, furniture and the metals' for 'harmony between the various parts of a successful work'. <sup>12</sup> The firm was re-established as Morris and Company, of which Morris was the only founder, in 1875, but he expanded it widely with unquenchable desire, and in 1890, he even founded Kelmscott Press 'to revive the art of the printed book'. <sup>13</sup> However, his ideal of supplying ordinary people with well-designed and cheap products does not seem to have been successful, considering that his clients were limited to the middle class. Nevertheless, Morris's dream, originating in his Oxford days and developed through Red House and the Morris firm, had an influence on contemporary designers at many levels <sup>14</sup> and played a pivotal role of the English Arts and Crafts Movement. The Movement spread into many European countries and America, and became amalgamated with various regional situations.

#### **The Will to Combine Art with Life: the Villa Mairea**

On the other hand, the Villa Mairea was designed and built between 1937 and 1939 for the young couple Maire and Harry Gullichsen. Without artificial links between the English Arts and Crafts Movement and the so-called Finnish National Romanticism, and between the Finnish National Romanticism and Alvar Aalto, we could find enough reasons for Aalto's strong intention to relate 'arts and crafts' to daily life within architecture. The Villa Mairea was furnished with various chairs, glass vases, lamp shadows and door handles designed by Aalto. The fact that the clients of the villa were co-founders of the Artek Company for the exhibition and the sale of Aalto's furniture <sup>15</sup> makes it a matter of course. When the villa was exhibited in the Museum of Modern Art, New York, 1939, the Aalto's chairs were also displayed at the same time. <sup>16</sup>

However, the Villa Mairea is not only important for the fact that it was furnished with high standard furniture and craftworks. For Aalto's main concept in designing it was to combine art with everyday life, and he hoped to spread the application at small-scale to every single house and even to mass-produced housing. <sup>17</sup> The abrupt change in the 'Proto-Mairea', an early version of the house <sup>18</sup> shows how strong the intention was. From a simple rustic hut of late 1937 <sup>19</sup> to the Proto-Mairea of April 1938, the plan was developed and refined through countless ideas and sketches, <sup>20</sup> 'as a trout grows up from a single egg' as Aalto himself put it. <sup>21</sup> The Proto-Mairea had a relatively complicated southern wing with floor level changes and several divided spaces, and also a separated art gallery for the painter and art collector, Maire Gullichsen, which had not existed during the earlier design phases. In the final plan, however, Aalto removed the art gallery and made the southern wing a large simple square box (14.25m×14.25m) as a living room and art exhibition hall, in which he intended to fuse art and life together. Particularly, he conceived flexible cabinet partitions as an 'art library'. Although the partitioned flexible space was enlarged and fixed later <sup>22</sup> as Harry Gullichsen's secured space, and so became unable to function as the art library, the clients could become interwoven with art in their everyday life.

The connection between Aalto's architecture and modern art (especially painting) has been studied by many people. Above all, Aalto's biographer Göran Schildt pointed out a Cézannesque influence in Aalto's architectural space, that is, breaking 'the law of perspective', through the Finnish leading artist Tyko Sallinen. And he also added Aalto's admiration for the arts of Fernand Léger and Georges Braque. <sup>23</sup> In a slightly different manner, Blundell Jones described the Aalto's 'aperspective space' together with those of Gunnar Asplund, Hugo Häring and Hans Scharoun. <sup>24</sup> Summarising Demetri Porphyrios's idea of 'the ordering sensibility of Heterotopia' and 'hybrid compositional principles', <sup>25</sup> Juhani Pallasmaa named Aalto's compositional method (particularly in

the Villa Mairea) a 'Collage', and afterwards, the 'cubist collage technique' became a representative label of Aalto's architecture.<sup>26</sup> Anyway, Aalto, who was a painter himself, agreed the important role of paintings in his architectural designs. He frequently said, 'It all began in painting!' because he could learn there 'freedom from ready-made systems and established conventions.'<sup>27</sup> In particular, he seemed to be attracted by changing degrees "from flat plane to high relief" of oil colours due to the material's viscosity.<sup>28</sup> For Aalto, to get materia through painting and sculpting became a fountain of ideas for architectural designs. Like this, as well as the Villa Mairea had the intimate relationship with art, Aalto regarded creating art as one process of architectural design itself.

### The Experimental Value and Our Role

Despite the 80 year gap and the geographical distance from England to Finland, Red House and the Villa Mairea have some interesting similarities. Both have L-shaped plans enclosing courtyards. And each courtyard, the paradise garden, was conceived as one with the interior space. Both have hierarchy in their wings, if borrowing Louis Kahn's terms, a 'served space' and a 'servant space'. Both have focal points: the well in Red House and the swimming pool in the Villa Mairea.<sup>29</sup> And they have symbolic functions as well as practical functions: the former has 'the external/internal opposition of court/well versus room/hearth, water versus fire'<sup>30</sup>; the latter could have a similar meaning, and in addition, the swimming pool has allusions of a Finnish lake and an American open-air life<sup>31</sup> besides the practical function of swimming after a sauna.<sup>32</sup> Both houses were created through the firm collaboration of architects and clients, who shared artistic ideals each other. Both houses became haunts for the clients' reformist friends.<sup>33</sup>

However, the more significant similarity that I want to emphasise here is the architects' and the clients' strong will for fusion of art and life within architecture and the strong intention to spread the value to ordinary people's lives. As a matter of course, there was a huge difference between their craftwork production methods that we should not overlook, that is, handicraft versus the machine. Considering a conservative anti-machine mood in England under the influence of Ruskin in the mid 19th century and the Aalto's liberal and experimental character in the 'first machine age', it might be a natural consequence.

Red House in the Pre-Raphaelite mode fed the fire of the English Arts and Crafts Movement, and the Villa Mairea in the Cubist mode became a precedent of a house integrated with modern art. Both were regarded as experimental laboratories,<sup>34</sup> and will remain as the experimental laboratories continually as long as architecture and mankind exist. The experimental value was already thrown to us of another different century, how to make the most of them. One fireplace of Red House reads 'Ars Longa Vita Brevis'. To create an eternal value of art in a transient life is our role.

1. 'The Pre-Raphaelite' group was first formed in 1848 with the seven members of D. G. Rossetti, W. H. Hunt, J. E. Millais, T. Woolner, W. M. Rossetti, J. Collinson and F. Stephens. It is not easy to define the boundary of the Pre-Raphaelites, because their works were very different and the accounts of the origin of the name are also various. However, they commonly 'determined to approach nature with a freshness and directness of technique that was absent from academic painting of a conventional sort.' Hilton, T. (1970) *The Pre-Raphaelite*, Thames and Hudson, London, p. 33.
2. 'It is the first private house of the new artistic culture, the first house to be conceived and built as a unified whole inside and out, the very first example in the history of the modern house.' Muthesius, H. (1979) *The English House*, Crosby Lockwood Staples, London, p. 17.
3. Blundell Jones, P. (1986) 'Red House', *Architects' Journal*, Jan. 15.
4. Following Muthesius's line, Pevsner said 'He (Webb) shows the red brick of the facades without covering it with plaster as Neo-Classical rules prescribed, and takes the outside appearance of the house as an expression of inside requirements without attempting a grand and useless symmetry.' Pevsner, N. (1975) *Pioneers of Modern Design*, Penguin Books, London, p. 59.
5. In those days, Pugin's *The True Principles of Pointed or Christian Architecture* (1841) and Ruskin's *The Stones of Venice* (1853) were widely read, and promoted the responsiveness and irregularity of Gothic architecture.
6. Through the influence of the Pre-Raphaelite painter and poet Dante Gabriel Rossetti (1830-94), Edward Burne-Jones, a friend from the Oxford 'Brotherhood', decided to start painting in 1856, while Morris did architecture. And Morris met Philip Webb for the first time in George Edmund Street office in 1856. Among the group were also Faulkner, Swinburne, Madox Grown, Arthur Hughes, etc. Mackail, J. W. (1938) *The Life of William Morris*, Longmans, Green and Co., London, New York, Toronto, p. 164.
7. Mackail, J. W. op. cit. p. 148, 165, 166.

8. *Ibid.* pp. 147-164.
9. *Ibid.* p. 147.
10. Ruskin, J. (1853) *Lectures on Architecture and Paintings*, p. 43. cited in Blundell Jones, P. *op. cit.*
11. Morris called it 'our palace of art' in a letter to Burn-Jones in 1864. Mackail, J. W. *op. cit.* p. 169.
12. See the first prospectus of the firm. I quote it from Cumming, E. and Kaplan, W. (1991) *The Arts and Crafts Movement*, Thames and Hudson, p. 17.
13. Cumming, E. and Kaplan, W. *op. cit.* p. 18.
14. Under the influence of Ruskin and Morris, A. H. Mackmurdo (1851-1942) founded the Century Guild, which had become the heart of the Movement in Britain by the early 1890s, and the Art Workers' Guild was established by many architects such as Lethaby and Richard Norman Shaw. Besides these, many organization were founded in the late 19th century with slightly different purposes but commonly 'to re-establish a harmony between architect, designer and craftsman and to bring handcraftsmanship to the production of well-designed, affordable, everyday objects.' Cumming, E. and Kaplan, W. *op. cit.*
15. Aalto started designing chairs as early as from 1927, Jyväskylä period, and his glass vases firstly designed for Scandinavian glassware competition in 1936 became famous through Savoy Restaurant in Helsinki, 1937. Pearson, P. D. (1978) *Alvar Aalto and the International Style*, Whitney Library of Design, New York, pp. 141-145, 166-167.
16. Schildt, G. (1986) *Alva Aalto: The Decisive Years*, Rizzoli, New York, p. 174.
17. On the Aalto' concept. see 'The Home of a Rich Collector', a lecture at Yale University on May 9, 1939, and 'Mairea', *Arkkitehti*, no. 9, 1939. Both were published in Schildt, G. (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, pp. 225-230.
18. Göran Schildt named the design with which the foundation work started as 'Proto-Mairea'. Schildt, G. (1986) *Alva Aalto: The Decisive Years*, Rizzoli New York, p. 154.
19. The evidence of the first proposal remains only in Porphyrios, D. (1982) *Sources of Modern Eclecticism*, Academy Edition, London, pp. 36-37.
20. The whole drawings of almost 900 were published in 1994 in *The Architectural Drawings of Alvar Aalto 1917-1939*, Vol. 10, *Villa Mairea 1938-1939*, Garland Architectural Archives, New York and London.
21. Aalto compared a design process to a biological process from an egg to a fully-grown trout in 'The Trout and the Stream', *Domus/Arkkitehti*, 1948. The article was republished in Schildt, G. (1997) *Alva Aalto: In His Own Words*, Otava, Helsinki, pp. 107-109. I think the design development of the Villa Mairea embodied well the biological analogy.
22. The drawings catalogued as 84/927, 928 and 929 (the former was by Aino Aalto in 1941) by Alvar Aalto Archive show the library extension.
23. Schildt, G. (1984) *Alva Aalto: The Early Years*, Rizzoli, New York, pp. 148-159, 214-230.
24. Blundell Jones, P. (1988) 'From the Neo-Classical Axis to Aperspective Space', *Architectural Review*, March, pp. 19-27.
25. Porphyrios, D. (1982) *Sources of Modern Eclecticism*, Academy Edition, London
26. Besides Pallasmaa, other people have continually using the term 'collage' to explain Aalto's architecture: for example, Richard Weston's *Villa Mairea* (1992) and Alvar Aalto (1995), Scott Poole's *The New Finnish Architecture* (1992), Schildt's description in *The Architectural Drawings of Alvar Aalto 1917-1939*, vol. 10, *Villa Mairea 1938-1939* (1994), Markku Komonen's essay in *Alvar Aalto The Brick* (2001), etc.
27. Schildt, G. (1984) *Alva Aalto: The Early Years*, Rizzoli, New York, p. 153.
28. Hoesli, B. (1980) *Alvar Aalto Synopsis*, Birkhäuser Verlag, Basel, Boston, Stuttgart, pp. 24-26.
29. Aalto, A. (1939) 'Mairea', *Arkkitehti*, no. 9.
30. Blundell Jones, P. (1986) 'Red House', *Architects' Journal*, Jan. 15.
31. Schildt, G. (1986) *Alva Aalto: The Decisive Years*, Rizzoli New York, p. 154.
32. This symbolic and psychological meaning of offering hospitality to visitors also exist in each building's entrance: the benches in Red House's entrance porch and the irregular shaped entrance canopy in the Villa Mairea. See Blundell Jones, P. *op. cit.*
33. 'In fact she collected artist friends rather than their work. ... She preferred to let the artists seek her out when they needed her. ... To be a guest at the Villa Mairea was a privilege that few visiting celebrities, whether artists, museum officials or critics, was willing to pass up. ... The Villa Mairea thus functioned as a center for the dissemination of a special brand of humanism, a contemporary lifestyle and a conception of natural form which exerted an influence on a whole generation of finnish architects, designers and artists.' Schildt, G. (1998) 'The Clients and Their Family History', In: Pallasmaa, J. (ed.) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, p. 24.
34. As we see in Maire's and Aalto's remarks, the Villa Mairea was considered as an experimental laboratory. See Pearson, P. D. *op. cit.* p. 168, and Aalto, A. (1939) 'Mairea', *Arkkitehti*, no. 9. And we could also see the experimental value in Red House considering the Morris's ideal.

## Modern Application of Primitivism: Alvar Aalto and Villa Mairea

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The term 'primitive' seems incompatible with modern architecture owing to its connotations of past or vernacular practice. However, there was a prominent figure who applied various primitive images to his modern buildings; the Finnish master, Alvar Aalto (1898-76). We can recognise his concerns for, and even admiration of primitive culture in some of his writings and sketches. This aspect of his work was deeply related to his intimacy with nature and human existence, and in a sense, was not disassociated from *Karelianism*, which underpins Finnish national identity. Moreover, his encounter with African primitive huts at the Brussels World's Fair in 1935<sup>1</sup> led him to start using the rustically treated timber columns from the Paris World's Fair in 1937.

Arguably, the Villa Mairea (1937-39) best shows Aalto's design concepts, because it was regarded as an experimental laboratory with the clients' full support. In the house, Aalto juxtaposed primitive or vernacular characteristics with modern ones in an elaborate manner. The Villa Mairea alludes to primitive concerns in several ways. First, he actively used first-hand materials with vernacular tectonic methods – especially in the exterior. Second, the multi-functional living room could be regarded as a modern *tupa*, that is, the space combining the functions of dining room, living room and kitchen typically found in a primitive *Karelian* farmhouse.<sup>2</sup> Third, the house touches deep the human mind with the elemental images of ancient philosophy – earth, water, air and fire.<sup>3</sup>

It is said that Aalto retrieved a cultural 'aura' which modern architecture had lost for a long time.<sup>4</sup> To us, who are entering a digital era via 'the age of mechanical reproduction', the question of how to keep the aura in our built environment is a real concern.

<sup>1</sup> Göran, Schildt. *Alvar Aalto: The Decisive Years* (New York: Rizzoli, 1986) 117-118.

<sup>2</sup> *Ibid.* 160-161.

<sup>3</sup> Scott Poole, "Elemental Matter in the Villa Mairea." *The New Finnish Architecture* (New York: Rizzoli, 1992) 18-27.

<sup>4</sup> Demetri Porphyrios. *Sources of Modern Eclecticism: Studies on Alvar Aalto* (London: Academy Editions, 1982) 113-115.



I Appendix # 6-(1) Initial Sketches with countless ideas, early 1938

Sketches Showing Various Concepts

<p>Location (84/164, 215, 166 in order)</p>				
<p>Orientation (84/164, 213, 221, 268 in order)</p>				
<p>Access (84/215, 164, 251, 296 in order)</p>				
<p>Fallingwater Influence (84/164, 213, 202, 278 in order)</p>				
<p>Enclosed Courtyard (84/164, 296, 166, 165 in order)</p>				
<p>L-shaped and Stepped Plan (84/164, 197, 213, 282 in order)</p>				
<p>Contour Lines (84/238, 271, 199, 284 in order)</p>				
<p>Studio (84/164, 245, 246, 245 in order)</p>				
<p>Pool (84/215, 164, 221, 211, 268 in order)</p>				
<p>Pergola (84/166, 169, 197, 251, 268 in order)</p>				
<p>Double Fireplace (84/164, 293, 295 in order)</p>				