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

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**VOLUME I**

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## **Abstract**

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Modern architecture has often been understood under one style or *-ism*, and therefore the pictures were inevitably oversimplified and sometimes distorted with prejudices. However, if we look into one building, we come to face many conflicting testimonies with the asserted manifesto. For this reason, it is essential to excavate each design project as deeply as possible in order to reveal the richness and diversity of modern architecture. Eventually, it will lay more steadfast foundation of architectural historiography. As one small step of the work, this thesis aims at exploring the Villa Mairea project (1937-39) by Alvar Aalto (1898-1976).

The Villa Mairea, for the clients Maire and Harry Gullichsen, has been regarded as one of the most important house designs in modern architectural history. Through an extensive collaboration with the clients, Aalto considered the house as an experimental laboratory, in which he could re-examine his established architectural concepts and possibilities for his later career. Owing to the experimental spirit, the design had come through various early versions with a number of drawings that show numerous and complex ideas. By analysing the drawings, I made a chronological order of each design stage and produced computer 3D models of them. This thesis also investigates Aalto's experiments in the design. I categorised them into three: experiment with typo-morphology; with space; and with reconciliation of polarities, and researched their meaning in architecture. Additionally, I dealt with Aalto's collective housing designs because he argued that the experimental spirit in the Villa Mairea could be applied to mass-produced housing. They show 'Existenz-Maximum' that illustrates 'new individualism', which is also the character of Hans Scharoun's housing projects.

Through this study, the depth of (modern) architecture became for me better illuminated. 'By advancing from one work to the next', we need to continually excavate the treasure of meaning in architecture.

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Hyon-Sob Kim  
Sheffield, UK / April 2005

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# Contents

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## VOLUME I

<i>i</i>	Abstract
<i>ii</i>	Acknowledgements
<i>iv</i>	Contents
<b><i>1</i></b>	<b>Chapter 1. Prologue: Unfinished Modernism</b>
<b><i>11</i></b>	<b>Chapter 2. Invitation to Villa Mairea</b>
<b><i>14</i></b>	<b>2.1. Locus of Villa Mairea Study</b>
<b><i>17</i></b>	<b>2.2. The clients, Maire and Harry Gullichsen</b>
<b><i>20</i></b>	<b>2.3. Noormarkku and Ahlström Mansions</b>
<b><i>27</i></b>	<b>2.4. Aalto's Own Description of Villa Mairea</b>
<b><i>30</i></b>	<b>Chapter 3. Villa Mairea, The Lost Memories</b>
<b><i>32</i></b>	<b>3.1. From Egg to Trout: Design Evolution of Villa Mairea</b>
<b><i>36</i></b>	3.1.1. Stage One: Initial Sketches (Early 1938, around January and February)
<b><i>54</i></b>	3.1.2. Stage Two: Early Versions (Early 1938 before April)
<b><i>55</i></b>	(1) Early Version 1
<b><i>60</i></b>	(2) Early Version 2
<b><i>66</i></b>	(3) Early Version 3
<b><i>71</i></b>	3.1.3. Stage Three: 'Proto-Mairea' (April 1938)
<b><i>82</i></b>	3.1.4. Stage Four: Final Version (May 1938 to January 1, 1939)
<b><i>95</i></b>	<b>3.2. Thematic Approach to Design Evolution</b>
<b><i>96</i></b>	3.2.1. Access, Entry and Circulation
<b><i>102</i></b>	3.2.2. Contour and Level Change
<b><i>107</i></b>	3.2.3. Change of Orientation
<b><i>110</i></b>	3.2.4. Dining Area as Intermediary Space
<b><i>114</i></b>	3.2.5. Studio and Pool
<b><i>118</i></b>	3.2.6. Vestige of Fallingwater Impact
<b><i>123</i></b>	3.2.7. Modular Coincidence or Hidden Geometry?

130	<b>3.3. Value of Pencil Stroke</b>
132	<b>Chapter 4. Precursors for Villa Mairea</b>
134	4.1. Finnish National Identity and Beyond : Gallen-Kallela's Kalela at Ruovesi, 1891-95
148	4.2. Voice Preparing THE Way and Beyond : Aalto's Own House in Munkkiniemi, 1934-36
158	4.3. The Modern in the Vernacular and Beyond : Asplund's Summer house at Stennäs, 1937
170	4.4. Clients' Former Residence : Gullichsens' Flat Renovation in Helsinki, 1936
176	<b>Chapter 5. Villa Mairea, The Experimental Laboratory</b>
181	<b>5.1. Experiment with Typo-morphology</b>
182	5.1.1. L-shaped Plan: Hierarchy, Orientation and Enclosure
187	5.1.2. Enclosed Courtyard: 'Finnishness' of Finnish Architecture
197	5.1.3. Volumetric Point: 'Head' or 'City Crown'
203	5.1.4. Curvilinear Elements: Rationality and Playfulness
216	<b>5.2. Experiment with Space</b>
218	5.2.1. The Dynamic amid the Static
223	5.2.2. Space to Combine Art with Life
241	5.2.3. Interior Landscape
249	5.2.4. Forest in Forest
	<b><u>VOLUME II</u></b>
273	<b>5.3. Experiment with Reconciliation of Polarities</b>
276	5.3.1. Reconciliation of 'Modern' and 'Primitive'
296	5.3.2. Reconciliation of 'Western' and 'Eastern'
319	5.3.3. Reconciliation of 'Geometric' and 'Organic'
334	5.3.4. Reconciliation of 'Masculine' and 'Feminine'
344	<b>5.4. Value of Experimentation</b>
349	<b>Chapter 6. New Individualism in Existenz-Maximum : Alvar Aalto's Collective Housing</b>

352	<b>6.1. Alvar Aalto and Social Conviction around 1930</b>
359	<b>6.2. Alvar Aalto in Collective Housing</b>
360	6.2.1. Early Projects in Neo-Classical Mode: 1923 ~ 1927
366	6.2.2. Influence of International Modernism: 1927 ~ 1935
373	6.2.3. On the Way to New Individualism: 1936 ~1940
382	6.2.4. Individuality within Collectivity of Post-war Projects
399	<b>6.3. Tracing the Case of Hans Scharoun</b>
417	<b>Chapter 7. Epilogue</b>
421	<b>Appendix</b>
422	<b># 1. Mass Housing Projects in Modern Architecture</b>
425	(1) Le Corbusier and ' <i>Machine à habiter</i> '
439	(2) Das Neue Frankfurt and <i>Existenzminimum</i>
451	(3) Housing Developments in Post-War Period
469	<b># 2. List and Source of Illustrations</b>
489	<b># 3. Bibliography</b>
504	<b># 4. Published Journal Article on Villa Mairea</b>
	'Villa Mairea, The Lost Memories', <i>ptah</i> , 2004:1, The Alvar Aalto Academy, Helsinki, pp. 17-28. (with Peter Blundell Jones)
	<b># 5. Refereed Conference Papers on Villa Mariea</b>
516	(1) 'Fusion of Architecture, Art and Life: Red House and Villa Mairea'. In: <i>Four Faces – The Dynamics of Architectural Knowledge: Proceedings of the 20<sup>th</sup> EAAE Conference, May 8-11, 2003</i> . Stockholm-Helsinki, pp. 83-86.
520	(2) 'Modern Application of Primitivism: Alvar Aalto and Villa Mairea'. In: Odgers, J. <i>et al. Primitive: Abstracts of the 2004 International Conference held at Welsh School of Architecture, Cardiff University, September 15-17</i> (ISBN 1-899895-35-3). Cardiff, p. 42.
	<b># 6. Tables of Villa Mairea Drawings and Computer Models</b>
521	(1) Table 1: Initial Sketches with Countless Ideas, Early 1938
522	(2) Table 2: Drawings in Each Stage, 1938
523	(3) Table 3: Computer 3D Models in Each Stage
	<b># 7. CD Containing Computer Models of Villa Mairea Early Versions</b>

**Chapter 1.  
Prologue: Unfinished Modernism**



*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.*  
Alvar Aalto, 1940 (Schildt, 1997, p. 102)



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## Chapter 1.

### Prologue: Unfinished Modernism

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The "Unfinished Modernism" has its own unborn architecture lost in the course of rushing too quickly. It should be re-found again and then the leaps and open gaps in the chain of development of modern architecture can be filled and its pattern as a whole might thus be given its fullest meaning. (Reima Pietilä, 1979)<sup>1</sup>

The project of modernity has not yet been fulfilled. (Habermas, 1980)<sup>2</sup>

To set a periodical boundary of 'modern' is a controversial one because the origin of the term is not only limited to recent centuries.<sup>3</sup> Nevertheless, it seems that most contemporary architectural historians do not deny referring to the late 19<sup>th</sup> and early 20<sup>th</sup> century as the starting point of 'modern architecture'. As William Curtis mentioned, it was 'an invention' of that time and 'conceived in reaction to the supposed chaos and eclecticism of the various earlier nineteenth-century revivals of historical forms.'<sup>4</sup> However, among many attitudes towards 'modern architecture' up to and including the 1920s, only one strand was spotlighted as the true style corresponding to the *Zeitgeist* or 'spirit of the age' – namely the 'International Style'. The label was coined and spread world wide by Henry-Russell Hitchcock and Philip Johnson in 1932 through the MOMA (Museum of Modern Art, New York) exhibition and the

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<sup>1</sup> Pietilä, R. (1979) 'Unfinished Modernism: a dialogue with an Interlocutor (Roger Connah)'. In Mikkola, K. (ed.) (1981) *Alvar Aalto vs. The Modern Movement*, International Alvar Aalto Symposium, Jyväskylä, pp. 81-89.

<sup>2</sup> Habermas, J. (1980) 'Modernity – An Incomplete Project', Lecture delivered in Frankfurt in September 1980 when receiving the Theodor W. Adorno prize. Published in Foster, H. (ed.) (1983) *Postmodern Culture*, Pluto Press, London & Concord, MA, pp. 3-15.

<sup>3</sup> Since the late 5<sup>th</sup> century when it was used to distinguish the Christian era from the pagan (Roman) past, every epoch has regarded its own culture as 'modern' in order to emphasise its departure from the old. Habermas, J. (1980) *op. cit.*

<sup>4</sup> Curtis, W. J. R. (1996) *Modern Architecture Since 1900*, Phaidon, London, p. 11.

eponymous book.<sup>5</sup> It emphasised three distinctive characteristics: ‘volume as opposed to mass’; ‘regularity as opposed to symmetry’; and ‘dependence on intrinsic elegance of materials as opposed to applied decoration’ – which were the main issues in the works by Le Corbusier, Oud, Gropius and Mies van der Rohe.<sup>6</sup> Just as influential as the style was, so was it inimical because the image was gained at the expense of other fundamental values in architecture. Though the viewpoints were a little bit different respectively, the major historiography by ‘the first historians’,<sup>7</sup> notably Nikolaus Pevsner’s [Pioneers of the Modern Movement] (1936) and Sigfried Giedion’s [Space, Time and Architecture] (1941) and activity as the secretary of CIAM, illustrated an oversimplified picture of modern architecture and eradicated other developments of it. According to Colin St John Wilson (1995), ‘the good intentions of modern architecture were ... abandoned at birth’.<sup>8</sup> He pointed out two critical points when the historical context went wrong. The first was ‘the battle of La Sarraz’ during the first meeting of the CIAM (Congrès Internationaux d’Architecture Moderne) in 1928, where ‘some form of Dictatorship’<sup>9</sup> formed an ideology in architectural politics and excluded from the stage some architects with different views of modern architecture like Hugo Häring (see Chapter 5.3.3.). The second was the aforementioned invention of ‘the International Style’. This reduction of modern architecture to one simple picture inevitably brought about the breakup of the CIAM in late 1950s and provided room for postmodernists’ attack: ‘Modern Architecture died in St Louis, Missouri on July 15, 1972 at 3.32 p.m. (or thereabouts)’.<sup>10</sup>

Confronted with this historical situation of modern architecture, we can have several

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<sup>5</sup> In fact, the concept of ‘international architecture (style)’ had already existed especially in Gropius’s [Internationale Architektur] (1925), the first volume of Bauhaus book series and in Hilberseimer’s [Internationale Neue Baukunst] (1927). However, the term ‘International Style’ became really international at the event in the US across the Atlantic.

<sup>6</sup> Hitchcock, H. R. and Johnson, P. (1966) *The International Style*, Norton, New York (originally published under the title *The International Style: Architecture Since 1922*)

<sup>7</sup> Concerning the historiography of modern architecture, see Tournikiotis, P. (1999) *The Historiography of Modern Architecture*, MIT Press, Cambridge, MA.

<sup>8</sup> Wilson, C. S. J. (1995) *The Other Tradition of Modern Architecture: The Uncompleted Project*, Academy Editions, London, p. 6.

<sup>9</sup> It is from Aalto’s expression: “The architectural revolution, like all revolutions, begins with enthusiasm and ends in some form of Dictatorship.” *Ibid.* p. 13.

<sup>10</sup> Jencks, C. (1977) *The Language of Post-Modern Architecture*, Rizzoli, New York, p. 9.

responses. Some might pursue 'historicism' or 'revivalism of past styles' following the postmodernists' line and popular culture. Quite often, however, the cheap adoption of past styles leads architecture to chaotic relativism or subordinates it to shallow commercialism. And some might try to create a new style following a new 'spirit of age'. Although it is perhaps a desirable effort to consider meaning of the time, we easily cater to a fashion in this attempt. In any case, if we stick more to styles or ethereal concepts rather than to true 'meaning in use' of architecture, we could repeat the fallacy that the orthodox modernists made. Modern architecture is not so much dead as 'unfinished' or 'incomplete'. It is neither because we can put an absolute trust in men's reason nor because we can believe that there will be a 'finished' or 'complete' version of modern architecture, but because the 'dead' modernism is only applicable to the instrumentalised rationalism at best and because there are lots of areas yet to be explored in modern architecture. The aim of this thesis lies here. Through this research, I attempted to reveal the richness and diversity of modern architecture. To attain the aim, I chose Alvar Aalto (1898-1976) and his Villa Mairea design (1937-39) as objects of study.

### **AALTO of Aalto<sup>11</sup> or Surge of Aalto**

The Finnish architect Alvar Aalto has attracted worldwide attention since his early career – particularly since the time when he won the competition for Paimio Sanatorium (1928; 1929-32) while in his 30s. His design has often been related to his homeland's unique natural environments, e.g. forest, lake and *aurora borealis*, which undoubtedly have increased critics' fascination for Aalto. Personally, this is also true to me, a Korean national because there are interesting historical and linguistic affinities between Finland and Korea.<sup>12</sup> But however

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<sup>11</sup> Because 'aalto' means 'wave' or 'surge' in Finnish, the title could be understood as 'wave of Aalto' or 'surge of Aalto'.

<sup>12</sup> Finland was under the rule of Sweden up to the beginning of the 19<sup>th</sup> century (exactly September 1809) and after that fell within the Tsarist Empire as a Grand Duchy – though autonomy was guaranteed in a degree – until 1917 when she declared independence (Singleton, 1998). Similarly Korea suffered frequent invasions all through history from Chinese dynasties and from Japan, which eventually occupied the Korean peninsula by force from 1910 to 1945. Just as there were various

inviting the two countries' similarities may be, they were only a supplementary motif to my absorption in Aalto; his architecture fascinated me as it has many other critics and architects.<sup>13</sup> Many of his aspects of architectural vocabulary distinguish him from other modern architects, for example, spatial diversity (or sometimes ambiguity), undulating wall or ceiling, light and acoustic concerns, sensitive use of materials, positive adoption of tradition, care for a natural context, and the like. And the vocabularies breathe into arid building *the breath of life*, which adds timeless value and 'a life-enhancing charm'<sup>14</sup> to his architecture. Owing to Aalto's different attitude towards architecture in comparison with other 'rational' modernists, critics named his architecture 'romantic modernism' (Pearson, 1978), 'synthetic functionalism' (Pallasmaa, 1998b), 'new humanism' (Reed, 1998), 'organicism' (Frampton, 1998), etc. Indeed, Aalto had emphasised 'humanitarian and psychological fields'<sup>15</sup> in architecture, something that instrumentalised rationalism quite often neglects, and tried to place man at the centre of architecture.<sup>16</sup> To him, rationalism itself was not wrong but the problem is 'the fact that the rationalization has not gone deep enough'. He argued that 'rationalism' or 'technical functionalism' has to be 'enlarged to cover even psychological field' and it is 'the only way to

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national movements in Finland in the late 19<sup>th</sup> and early 20<sup>th</sup> century, so were there strong national (military and cultural) movements in Korea for independence during the Japanese occupation. On the other hand, the linguistic question around Finnish was a further factor in my getting interested in the country – Finnish is quite a strange language in the European context (Glanville, 1977). Generally speaking, Finnish belonging to the Uralic (Finno-Ugric) family and Korean belonging to the Altaic family might be regarded as a distant relative within the broad boundary of the Ural-Altaic family (O'Grady, 1996). Although 'the romantic theories' by some 19<sup>th</sup> century philologists (e.g. Castrén and Sjögren) 'regarding the racial origins of the Finns and their movements across Eurasia in the dawn of history' were not clearly proven or generally rejected (Singleton, 1998), several linguistic analogies between the two made me more sympathetic to the country. For example, 'agglutination', 'vowel harmony' and 'consonant gradation' – the grammatical characteristics of Finnish language according to Glanville (1977) – are exactly those of Korean (and perhaps those of Ural-Altaic family languages). Without further presumption about other countries having similar backgrounds, these geo-political, historical and linguistic affinities between Finland and Korea became an invisible leitmotif for me to get interested in Finland and eventually in that country's national hero, Alvar Aalto.

<sup>13</sup> In retrospect, I was imitating the outdoor amphitheatre of Helsinki University of Technology for a riverside hotel design and the fan shape concept of Aalto auditoria for a church design during my undergraduate course, not knowing (and not questioning) who the designer was.

<sup>14</sup> Aalto, A. (1953) 'Experimental House at Muuratsalo', *Arkkitehti*, No. 9-10, 1953. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, pp. 234-235.

<sup>15</sup> Aalto, A. (1940a) 'The Humanizing of Architecture', *The Technology Review*, November 1940. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, pp 102-107.

<sup>16</sup> "True architecture exists only where man stands in the center." Aalto, A. (1958) 'Instead of Article', *Arkkitehti*, 1958. Cited in Norri, M. R. (1998) 'Appreciation'. In Reed, P. (ed.) (1998) *Alvar Aalto: Between Humanism and Materialism*, The Museum of Modern Art, New York, p. 13.

humanize architecture'.<sup>17</sup>

Among many appraisals of Aalto's architecture, an 'organic' character might be the most frequently raised one. The starting point of this research was to compare his 'organic' approach in design with Wright's 'organic architecture' and Häring's *Organisches Bauen*. Unlike these senior masters, Aalto did not compose any principle of organic architecture or whatever. Nevertheless, many critics have drawn the term 'organic' from his architecture and/or mentioned affinities with Wright's or Häring's – e.g. Zevi (1945), Giedion (1949), Joedicke (1959), Frampton (1980; 1998), Curtis (1996), etc. and Blundell Jones (1978; 1995; 1999) put Aalto together with them in an 'organic tradition'. It is also interesting to notice that the three architects achieved their architectural enterprises in different soils – America, Germany and Finland – despite the 'presumably' similar tradition. In this sense, a comparative study of the three architects' 'organicity' might be effective, and could provide a strong insight into the 'organic tradition', which could compete with the orthodox rationalism, as Blundell Jones strongly implied, as an alternative stream of modern architecture.

However, there is always an inherent problem in categorising or labelling something, even if it helps understanding it at a first stage. We could approach their architecture easily through the concept of 'organic', but the concept often eludes the architecture once we arrive there.<sup>18</sup> It was reasonable for Wilson (1995) to point out that we should not apply any label like 'organic' to their work. (But his binary distinction of modern architecture – one and the other – went too far to permit room for any other trends.<sup>19</sup>) Furthermore, the label 'organic' has been

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<sup>17</sup> Aalto, A. (1940a) *op. cit.*

<sup>18</sup> Concerning the relation between theory and practice, see note 205 in 'Chapter 5.3.3. Reconciliation of 'Geometric' and 'Organic'".

<sup>19</sup> I think that he had better use 'the other traditions' (plural) or 'another tradition' instead of 'the other tradition' (singular). And he included too many or different architects in 'the Other Tradition' of modern architecture.

A representative list of names of first-generation Modernists of the Other Tradition would include: Loos, Asplund, Lewerentz, Aalto, Bryggmann, Albini, Gardella, Frank Lloyd Wright, Schindler, Duiker, Bijvoet, Scharoun, Haering, Taut, May, Mendelsohn, Schwarz, Gray, Barragan, Scarpa.

used very differently by different people and so it has too broad a spectrum of meaning. For example, to Sullivan (1901-02),<sup>20</sup> 'searching for realities' means 'organic', to Zevi (1945), 'planned for human happiness' means 'organic' (but 'naturalistic' and 'biological' imitation should be excluded), to Giedion (1949), 'irrational' means 'organic', and to many others, 'irregular', 'natural' and 'biological' mean 'organic'. Particularly from Sullivan's and Zevi's standpoints, it is very hard to distinguish the etymological uniqueness of the term, and 'organic architecture' implies, quite ambiguously, all sorts of 'good architecture'. For this reason, Blundell Jones (2002) is now regarding the term as less useful than before and suggests that we do not have to cling to it so firmly now.<sup>21</sup> Instead, he proposes 'a case study approach' because we can find out lots of interesting ideas of an architect in each building which go beyond a narrow category.

### **Case of Case-study: Villa Mairea**

In the introduction of the recently published book [Modern Architecture Through Case Studies] (2002), Blundell Jones expounds the virtues of case studies. If one studies a small example in detail, 'one can feel more confident of getting at least something right than when building an edifice of theory that might crumble into a thousand pieces in the face of contradictory evidence.' As he quotes Lytton Strachey (1948), recent history is difficult because 'we know too much about it', so we had better 'row out over that great ocean of material, and lower down into it, here and there, a little bucket, which will bring up into the

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It is important to the proper understanding of the Other Tradition that it should not be perceived in terms of any one formal language; this is particularly important since – as we have seen – the misleading labels 'Expressionist' and 'Organic' have been applied to some of the work in this Tradition.

Wilson, C. S. J. (1995) *op. cit.* p. 25 and 102.

<sup>20</sup> Sullivan's essays in [Kindergarten Chats] (1979) were originally serialised in [Interstate Architect & Builder] from February 1901 to February 1902.

<sup>21</sup> Blundell Jones, P. (2002) *Modern Architecture Through Case Studies*, Architectural Press, Oxford, p. 241.

'Functionalism', 'Rationalism', 'Expressionism', 'International Style', 'Organic Architecture' all have such tortuous histories that they have lost all clarity, and most of the works described in these pages transcend all such labelling systems.

light of day some characteristic specimen'. According to him, the methodology is partly indebted to 'misgivings about the possibility of ever writing a comprehensive modernist history' and partly to concerns 'about the dangers of imposing narratives on the lives of others'. Behind the misgivings and concerns, he bears in mind the unbalanced historiography by 'the first historians' of modern architecture. Although they were successful in producing architectural *canons*, the pictures was inevitably reduced, simplified, and sometimes distorted with strong prejudices. With a revisionist historical standpoint, instead, Blundell Jones re-writes the 'depth and complexity' of the modern movement, exploring each building more than the movement's 'common aims'. Even though the case-study approach might not be a new methodology, it must be an essential breakthrough for the contemporary architectural studies which are full of *grand narratives* and imposing theories rather than thoughts about each building in itself. He epitomises his view as follows:

General laws may well be implied by the narrative of a case-study and are perhaps never avoided, but starting with the case rather than the laws at least assures dialogue with the material. To be specific, it involves investigating the physical and cultural context of each building, and even if one is trying to discover general rules or principles behind it, this is perhaps better than bending the work to fit the rules.<sup>22</sup>

I argue that this case-study method is most suitable for Alvar Aalto study because he himself was an architect who denied theorising his architecture but preferred to communicate through his buildings.<sup>23</sup> As is well known, he responded, "I answer with my buildings", whenever asked about his architectural theory.<sup>24</sup> Also, he was wholly committed to 'the act of building'

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<sup>22</sup> *Ibid.* p. 6.

<sup>23</sup> Pallasmaa raises an objection against this 'Aalto legend' with the fact that Aalto delivered many lectures, wrote many articles and attempted 'systematic research in architecture'. But these activities are natural ones for a leading architect to do and it is true that he did not made an imposing theory unlike other rationalists. See Pallasmaa, J. (1998b) 'Alvar Aalto: Toward a Synthetic Functionalism'. In Reed, P. (ed.) (1998) *Alvar Aalto: Between Humanism and Materialism*, The Museum of Modern Art, New York, pp. 20-44.

<sup>24</sup> Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, Rizzoli, New York, p. 227, and Zevi, B. (1950) *Towards an Organic Architecture*, Faber & Faber, London, p. 57.

as an architect, as Miller (1979) observed properly.<sup>25</sup> Aalto's faithfulness to buildings themselves can be supported by Summerson's warning to modern architects who were more interested in other things.<sup>26</sup> It is congenial to Blundell Jones's outlook of architectural writing. In this thesis, I will follow Blundell Jones's line and explore the Villa Mairea as the case. The close study of it will clarify how enormous and complex ideas come and go in the design process, which cannot be grasped by one theory or *-ism*. Although I concentrate on the one case in this thesis, it is a kind of window, through which I can see Aalto's whole architecture. Eventually, it will broaden the horizon of modern architectural history.

### Organic Organisation of Thesis

This thesis is composed of seven chapters and, excluding the prologue (Chapter 1) and the epilogue (Chapter 7), it has five chapters. All the chapters are organically woven into one story on the Villa Mairea and Alvar Aalto – but ultimately on (modern) architecture. Among them, 'Chapter 3. Villa Mairea, The Lost Memories' and 'Chapter 5. Villa Mairea, The Experimental Laboratory' could be regarded as key chapters about the Villa Mairea. The enveloping chapters are complementary but indispensable ones for the whole story.

If **Chapter 1. Prologue: Unfinished Modernism** can be regarded as the introduction of the whole thesis, **Chapter 2. Invitation to Villa Mairea** is that of the Villa Mairea. Here, I will investigate how the house has been studied up to now, and describe the clients and the town Noormarkku, where the house was built. Additionally, I put in the whole text of 'Mairea'

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<sup>25</sup> Miller, W. C. (1979) 'A Thematic Analysis of Alvar Aalto's Architecture', *Architecture and Urbanism*, October 1979, A+U Publishing Co., Tokyo, p. 35.

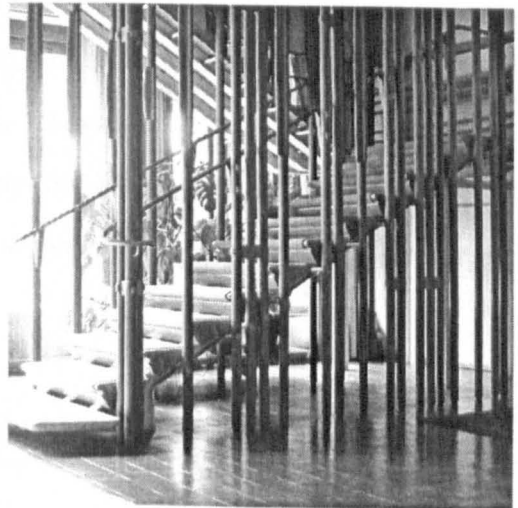
<sup>26</sup> Summerson, J. (1941) 'The Mischievous Analogy', AA Lecture. Published in Summerson, J. (1949) *Heavenly Mansions and Other Essays on Architecture*, Cresset Press, London, pp. 197-199.

He [the modern architect] has, for some reason or another, stepped out of his *role*, taken a look at the scene around him and then become obsessed with the importance not of architecture, but of the *relation* of architecture to other things. ... If architects are more interested in the relationship of buildings to a social and scientific context than in the buildings themselves, it is probable that the buildings themselves will become dull, empty and unattractive.



(1939), Aalto's public description about the project. **Chapter 3. Villa Mairea, The Lost Memories** is one half of the main study on the Villa Mairea. The point of this chapter is to clarify the whole design process as closely as possible, analysing all the remaining drawings (over 800). I aimed at making a chronological order of each design stage, and as a result, I produced a computer 3D model of each early versions (Early Version 1, Early Version 2, Early Version 3, and 'Proto-Mairea'), which could be compared with the final design. **Chapter 4. Precursors for Villa Mairea** is an interlude between the two key texts on the house (Chapter 3 and 5). Thanks to the exploration of the design process, the Villa Mairea has got the potential to be compared with other houses that might have influenced it or could be paralleled with it. They are Gallen-Kallela's Kalela at Ruovesi (1891-95), Aalto's own house in Munkkiniemi (1934-36), Asplund's summer house at Stennäs (1937) and the clients' former residence in Helsinki. As the other half of the key study on the Villa Mairea, **Chapter 5. Villa Mairea, The Experimental Laboratory** depicts various Aalto's experiments in the design. I categorised the experimentation into three: with typo-morphology; with space; and with reconciliation of polarities. If I focused mainly on the Villa Mairea in 'Chapter 3', I dealt in this chapter with various Aalto's designs and other architects' ones related to the experimental subjects. **Chapter 6. New Individualism in Existenz-Maximum: Alvar Aalto's Collective Housing** is an independent study that seems to have nothing to do with the Villa Mairea story. However, it is a significant complement because Aalto wanted his experimental spirit in the Villa Mairea design to be applied to mass-produced housing. Contrasting with *Existenzminimum*, I define Aalto's attitude in housing designs as 'Existenz-Maximum' that illustrates 'new individualism', which Aalto introduced in the 'Mairea' article. Though these titles are rather antinomic to my hesitation in labelling, they could be regarded not as regulating rules but as least explanatory tools. In the last part of this chapter, I studied Hans Scharoun's mass housing projects because of many similarities between Aalto and him, which will underpin more the validity of Aalto's approach in housing design. Finally, in **Chapter 7. Epilogue**, I will examine briefly the value of this study.

**Chapter 2.  
Invitation to Villa Mairea**



*Aber Alvar, es ist kein Haus, es ist ein Liebesgedicht.  
(But Alvar, this is not a house, it is a love poem.)  
Sigfried Giedion (Pallasmaa, 1998, p. 85)*

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## Chapter 2.

### Invitation to Villa Mairea

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The Villa Mairea (1937-39) must be counted one of the most representative works of Aalto's whole career. As Aalto himself called the house an *opus con amore*,<sup>1</sup> it reflects the architect's enthusiasm in its whole design process and in his collaboration with the clients as well as in its abundant architectural vocabularies. Indeed, it has been regarded as an important house in many aspects. First, to clients Maire and Harry Gullichsen (1907-90; 1902-54), it was the statement of an ambitious younger generation in a small town, Noormarkku, and was intended to surpass earlier mansions of the Ahlström family. Second, to the architect Alvar Aalto (1898-1976), the project was an incomparably good opportunity because of the freedom permitted and the generous budget. The house, completed when he was around 40, provided a good experimental laboratory in which he was able to examine his architectural concepts up to then and to investigate various possibilities for his later career. Third, it is often praised as one of the best houses in modern architectural history.<sup>2</sup> That may be not only because of the accomplishment of an ideal house, but also because it mediates between tradition and modernism, and even because it anticipates 'beyond-Modernism' just after 'the first machine age',<sup>3</sup> by playing polyphony in reaction to an immature rationalism.<sup>4</sup>

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<sup>1</sup> Fleig, K. (ed.) (1963) *Alvar Aalto: Band I 1922-1962*, Verlag für Architektur Artemis, Zürich, p. 108, and Pallasmaa, J. (1985) 'Villa Mairea-fusion of Utopia and Tradition', *Alvar Aalto: Villa Mairea*, GA 67, A.D.A. EDITA Tokyo Co., Ltd.

<sup>2</sup> Pallasmaa ranked the Villa Mairea with the Villa Savoye by Le Corbusier, the Tugendhat House by Mies van der Rohe, the Glass House by Pierre Chareau and Bernard Bijvoet, and the Kaufmann House by Frank Lloyd Wright. Pallasmaa, J. (1985) *op. cit.*

<sup>3</sup> This term is directly from Banham, L. (1960) *Theory and Design in the First Machine Age*, The Architectural Press, London, in which he dealt with European architecture in the first three decade of the 20<sup>th</sup> C.

<sup>4</sup> Aalto said about rationalism, '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.' in 'The Humanizing of Architecture', *The Technology Review*, November 1940. It was republished in Schildt, G. (1997) *Alvar Aalto: In His Own Words*, Otava, Helsinki, pp. 102-107.

In this thesis, I will focus on the house's experimental value. This view is clear in the architect's descriptions<sup>5</sup> and the clients' statement on it. Maire Gullichsen said, "We told him that he should regard it as an experimental house; if it didn't work out, we wouldn't blame him for it."<sup>6</sup> Arguably, however, no proper study so far has dealt with the house from this perspective. Although to name it an experimental laboratory could be also seen as an excuse for the commission of the luxurious house,<sup>7</sup> it is true that Aalto gave full play to his genius in this house design with ceaseless inspiration for this reason. This experimental spirit made possible in the Villa Mairea, firstly, a long gestation of the design process, and secondly, frequent appearing and disappearing of important ideas for his later designs. Therefore, this study on the house will be largely divided into two parts. The first covers the design developmental process, in which I will closely analyse and interpret the metamorphosis of the house. The other is on the aspects of experimentation, where I will trace what the experiments in the house were like, and how they were applied to his later designs and re-emerged in a different way. Therefore, the house is a kind of window, through which we can see the architect Alvar Aalto and his architecture. For this study, I need to confirm my primary materials for analysis. They are the whole set of drawings for the design,<sup>8</sup> and Aalto's statements about it,<sup>9</sup> as well as the finally executed building. This is significant in arriving at an understanding of the architect and the architecture because the forgotten drawings are as important as the final building, and because his own descriptions of it suggest to us his original intention in the design. Beforehand, however, I will examine in this chapter the locus of the studies on the house. And I will write about the clients and the two former Ahlström family mansions as background.

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<sup>5</sup> We can see Aalto's experimental attitude towards the Villa Mairea in an Yale University lecture on May 9, 1939, and in an article titled 'Mairea' of *Arkitehti*, No. 9, 1939. Both were published in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki.

<sup>6</sup> Pearson, P. D. (1978) *Alvar Aalto and the International Style*, Whitney Library of Design, New York, p. 168.

<sup>7</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>8</sup> Over 800 remained drawings were published 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.

<sup>9</sup> See note 5 and 'Chapter 2.4. Aalto's Own Description of Villa Mairea'.

## 2.1. Locus of the Villa Mairea Study

The first time that the Villa Mairea was introduced to the world is supposedly when its plans and photographs were exhibited along with those of Le Corbusier and Frank Lloyd Wright in the Museum of Modern Art during the New York World's Fair in 1939.<sup>10</sup> However, at the time, the presentation could not but be very limited because the house was still under construction. After the completion of the house, some articles were published on it.<sup>11</sup> For example, [Architectural Forum] (June 1940) reported the Villa Mairea with a dozen illustrations and a short general comment altogether in three pages. Nevertheless, the first influential description on it came from a most powerful writer: Sigfried Giedion (1949). He visited the house in September 1948<sup>12</sup> before enlarging the 2<sup>nd</sup> edition of his [Space, Time and Architecture] (1949), and emphasised the flowing space and the intimacy through textures of the house. Since Giedion, other writers have just followed his line in explaining the house (e.g. Joedicke, 1959),<sup>13</sup> or remained at the level of a general project description (Fleig, 1963). It was only after the master's death in 1976 that studies on him and on his works became broadened in quantity and increased in quality. That is critically because his archive was open. Pearson's study on the Villa Mairea (1978) is meaningful in that he tried to deal with some earlier versions of it for the first time.<sup>14</sup> As influential historians, Kenneth Frampton in his *Critical History* (1980) emphasised its link with Finnish National Romanticism and 'the principle of

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<sup>10</sup> Schildt described Gullichsens' amazement when they encounter their future home in a far country, quoting the interview of 1978 with Maire. Schildt, G. (1986) *Alva Aalto: The Decisive Years*, Rizzoli New York, p. 174. There has already been a major Aalto exhibition in the Museum of Modern Art between March 15 and May 1 in 1938. Schildt, G. (1994b) *Alvar Aalto: A Life's Work – Architecture, Design and Art*, Otava, Helsinki, p. 299.

<sup>11</sup> See 'La Maison de l'architecte Alvar Aalto; Maison Prè de Pori', *L'Architecture d'aujourd'hui*, November-December 1939, 'Landhaus Gullichsen in Norrmark bei Bjö. Architekten Aino und Alvar Aalto, Helsingfors', *Das Werk*, Heft 3/4 März/April 1940, 'Mairea, House in Norrmark', *Architectural Forum*, June 1940, 'Villa Mairea', *Arkitekten*, no. 7/1940, 'Villa "Maireas" Bastu, Norrmark', *Arkitehti*, vol. 4-5, 1947, etc.

<sup>12</sup> Giedion expressed it as a poem rather than a house: 'Aber Alvar, es ist kein Haus, es ist ein Liebesgedicht.' Pallasmaa, J. (1998) *op. cit.* p. 85.

<sup>13</sup> Joedicke, J. (1959) *A History of Modern Architecture*, The Architectural Press, London

<sup>14</sup> According to Schildt, Pearson took over all the material of one researcher, who helped Schildt classifying Aalto's material after his death. Schildt, G. (1992) 'Introduction'. In Tzonis, A. (ed.) (1994) *op. cit.*

duality', and the young William Curtis (1982)<sup>15</sup> pictured it as a pivotal work transcending mere 'modern' concerns. Porphyrios (1982) related the house to the tradition of the aristocratic Scandinavian residence in terms of hierarchy, and stressed its hybrid compositional principles and their metaphorical use. And Malcolm Quantrill (1983) was responsible for pointing out the informality, the complexity and the conflict of Aalto's vocabulary in the house, in concepts reminiscent of Venturi's ideas (1966).<sup>16</sup> Meanwhile, Aalto's close friend Schildt completed the second volume of his Alvar Aalto biography (1986), with a description so empirical and so comprehensive that it became a basic text for Villa Mairea study. Nevertheless, these researches could not dig deeply enough into the house since their studies of it formed only a small part of their whole writings.

In this sense, some writings since the second half of 1980, which are wholly focused on the house, are important: Pallasmaa (1985; 1986; 1998) pictured it as a Cubist collage; Weston (1992) synthesised all the former studies successfully; and, very uniquely, Poole (1992) dealt with the 'elemental matter' in the Villa Mairea. Particularly, the ambitious monograph on the house, which the Alvar Aalto Foundation and Mairea Foundation with Juhani Pallasmaa as editor published in 1998, is a most significant work. This book tried to include all the aspects of the Villa Mairea, such as the clients and their family history; the process of the design evolution; and articles on the image and meaning, the interior design and the garden. Nonetheless, these writings are also limited according to the respective authors' perspectives. This monograph, despite its coverage, left room for improvement in several ways. First, although the attempt to cover all the design phases in 'Evolution of the Design Concept' is valuable, analysis and interpretation were restricted in relation to the multitude of drawings that were printed, and some important drawings were omitted. Second, Aalto's various ideas during the early design process hardly enter into the main texts. That is to say, there is little

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<sup>15</sup> In his 3<sup>rd</sup> edition of [Modern Architecture Since 1900] (1996), he enlarged the content on the house to double that in the 1<sup>st</sup> edition, investigating later achieved studies.

<sup>16</sup> Venturi, R. (1977) *Complexity and Contradiction in Architecture*, The Museum of Modern Art, New York (firstly published in 1966)

'communication' between the 'Evolution of the Design Concept' and the sections 'Image and Meaning' and 'Interior Design'. Third, Pallasmaa's text 'Image and Meaning', as the title assumes, concentrates too much on the image of the house, and particularly on the relation with modern paintings and Cubist collage. Therefore, other aspects, such as the practical context or the house's position among Aalto's other works, are relatively untouched. This caused an unfortunate unbalance in the text as a main body of the monograph. Fourth, I argue that some parts of the descriptions should be rethought. Above all, Pallasmaa's 'modular coordination'<sup>17</sup> of the house seems at first very convincing, but the interpretation is apt to lead people to the fallacy of hidden geometries.<sup>18</sup> These objections urge another alternative study on the Villa Mairea.

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<sup>17</sup> Pallasmaa, J. (1998) *op. cit.* pp. 80-81.

<sup>18</sup> See 'Chapter 3.2.7. Modular Coincidence or Hidden Geometry?'

## 2.2. The Clients, Maire and Harry Gullichsen

The clients for the Villa Mairea were a rich young couple, Maire and Harry Gullichsen. When they commissioned the house, they were only 30 and 34 years old respectively. Maire (1907-90) was a daughter of Valter Ahlström, whose timber processing industry has been one of the biggest in Finland. With an interest in modern art from her teenage,<sup>19</sup> she studied art in the Helsinki Art Academy and in Paris, which led her to a lifelong art-related circle. She was a member of the Rotonde group of cultural radicals in the 1920s,<sup>20</sup> and established the Free Art School in Helsinki in 1935 against the conservative Art Academy of Finland. In the late 1930s, she also founded the Modern Art Society to organise many international art exhibitions. Maire married the 4 years older Harry Gullichsen (1903-54) in 1928, who was a son of a director of the big forest company, Enso-Gutzeit. It was lucky for young Harry to marry her because he became the head of the Ahlström Company when his father-in-law died in 1932, and because he could share his social radicalism with Maire.

It was in 1935 that the Gullichsens met the Aaltos for the foundation of 'Artek',<sup>21</sup> which was formed to exhibit and sell Aalto's furniture. Yet, their relationship became more and more extensive beyond the Artek matter. The Gullichsens were to the Aaltos what the Medici family was to Renaissance artists, and the Aaltos were the artists who could create what the Gullichsens dreamed of a social utopia. According to the Gullichsens' son Kristian (1998), their reformist movement was called HAIRAL after their initials: Harry, Maire, Aino and Alvar. One facet of their social concerns can be read in Maire's account of their work for

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<sup>19</sup> Schildt, G. (1998) 'The Clients and Their Family History'. In Pallasmaa, J. (ed.) (1998) *op. cit.* p. 16.

<sup>20</sup> She seems to have enjoyed the meeting with many liberal artists and writers at the Rotonde restaurant in Helsinki in those days. The group included some painters having Parisian relations, and various writers like Gunnar Björling and Elmer Diktonius, Nils-Gustav Hahl and Olavi Paavolainen. See Schildt, G. (1998) *op. cit.*

<sup>21</sup> The term is a combination of 'art' and 'technology', which implies their positive attitude towards technology. Aalto's logo design for the Artek Company, where the first letter 'a' is a small letter, shows the Bauhaus influence. See Schildt, G. (1979) 'Aalto, Bauhaus and the Creative Experiment'. In Mikkola, K. (ed) (1981) *Alvar Aalto vs the Modern Movement*, International Alvar Aalto Symposium, Jyväskylä, p. 32.



employees of the Ahlström Company.<sup>22</sup> She said that in spite of the strong opposition of the stockholders, Harry and Maire tried to improve the Ahlström workers' working and living environment with the help of the Aaltos. Indeed, the first commission that Aalto got from Harry was to improve a workers' residential environment by designing the Varkaus new town.<sup>23</sup> To the clients Maire and Harry Gullichsen, the encounter with the Aaltos was one of the most significant events in their life, and the relationship became much closer when they were designing and building the Villa Mairea. It even influenced their son, Kristian Gullichsen, because he followed Aalto's track to become an architect.

According to Schildt (1986), before designing the Villa Mairea, the Aaltos had already been involved in the Gullichsens' residential concerns, that is, furnishing and decorating the Gullichsens' former Helsinki flat in 1936.<sup>24</sup> And it must have influenced the new house design in Noormarkku, as Suominen-Kokkonen (1998) argued.<sup>25</sup> With the Villa Mairea, the Gullichsens gave Aalto a free hand with full financial support. Nevertheless, the collaboration between the architect and the clients was very intense, reflected in Maire's later remark: "Every detail was discussed."<sup>26</sup> Particularly, the mistress's participation was very active in the house design, which might be especially because she had her own artistic will as a painter. For example, the blue tiles in the exterior dining room corner and the tilted white steel column under the studio were the results of her demands, and in the garden design, Maire seems to have been involved to a larger extent.<sup>27</sup> After the family moved in to the house in August 1939,<sup>28</sup> it functioned not only as a family's home but also as Maire's Artek director's office<sup>29</sup> and design studio, and as a place for Harry's business meetings. In addition, it also worked as

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<sup>22</sup> Schildt's interview with Maire in 1984. Schildt, G. (1986) *op. cit.* pp. 140-142.

<sup>23</sup> *Ibid.* pp. 142-144.

<sup>24</sup> *Ibid.* p. 262.

<sup>25</sup> Suominen-Kokkonen, R. (1998) 'The Interior Design'. In Pallasmaa, J. (ed.) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, pp. 126-134.

<sup>26</sup> Maire's radio interview in 1984, quoted from Pallasmaa, J. (1998) *op. cit.* p. 72.

<sup>27</sup> *Ibid.*

<sup>28</sup> Gullichsen, K. (1998) 'Foreword'. In Pallasmaa, J. (ed.) (1998) *op. cit.* pp. 11-12.

<sup>29</sup> Pearson, P. D. (1978) *op. cit.* p. 172.

a leading centre of contemporary culture. For chosen guests,<sup>30</sup> it was regarded as a kind of privilege to visit the house. The facts that the visitors were inspired by the house's artistic creativity and that they advertised the value of the house and the social liberalism of the hosts to the outer world, must have satisfied the Gullichsens. Although Maire seems not to have been a successful painter, she became an art supporter and art collector instead. This can be verified by the fact that one of the important functions of the Villa Mairea was to exhibit and to store art collections. However, Schildt (1998) even argued that 'she collected artist friends rather than their work', for 'she preferred to let the artists seek her out when they needed her.'<sup>31</sup> Be that as it may, it is true that Maire collected an enormous number of art works, among which she donated over 500 to Finnish art collections at the Pori Art Museum in 1981. In the same year, she was awarded the degree of honorary professor.<sup>32</sup>

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<sup>30</sup> Among many celebrities, there were also artists Fernand Léger, Sandy Calder, the architectural historian Sigfried Giedion, museum curator Aimée Maeght and Pontus Hultén, etc. Schildt, G. (1998) *op. cit.* p. 24.

<sup>31</sup> *Ibid.*

<sup>32</sup> This information is from the website of Pori Art Museum. Available from: <http://www.pori.fi/art/satakunta/pori/eng/index.html> [Accessed 16th December 2003]

### 2.3. Noormarkku and Ahlström Mansions

To understand the Villa Mairea, we need to know about Noormarkku where the house was built. The town is located approximately 15 km north of Pori and 300 km northwest of Helsinki, the district of which expands to the west coast of Finland. The latitude is as high as 62.00° that it has very typical conditions of northern countries. For example, the altitude of sun is very low all year long and there is a sharp difference of the day-length in between summer and winter.<sup>33</sup> This geographical situation has been related to the cultural customs and built environment as in the other parts of Finland. The municipality is divided by the Noormarkunjoki (Noormarkku River) running east to west, and more than 6000 people inhabited the area in 1989.<sup>34</sup> Although many of them commute to Pori to work, it also has its own industries like agriculture and forestry. According to [Kylien Raitit Noormarkku kuvissa] (The Roads of Villages in Noormarkku Pictures) (1989), the history of Noormarkku industry can be traced back to 1700s when sawmills were established on the Noormarkunjoki rapids for the first time. In the early 19<sup>th</sup> century, an ironworks was started for the manufacture of agricultural implements, and the timber processing industry became lively. The most prominent company, since then up to now, has been the A. Ahlström Osakeyhtiö.<sup>35</sup> The company was founded by Antti Ahlström (1827-96) and passed to his son Valter Ahlström. Because of its successful industry, the Noormarkku area became a centre of Ahlström's business. And accordingly, thanks to the enterprisers, the social conditions of Noormarkku,

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<sup>33</sup> Including the exact latitude and longitude of Noormarkku (61.5973° and 21.8778°), I got the following information from Niilo Pietarinen, Pori's geodesist. Pietarinen, N. ([niilo.pietarinen@pori.fi](mailto:niilo.pietarinen@pori.fi)) (24 June 2003) *Vast: Some inquiries on Noormarkku*. Personal email to H.S.Kim ([arq00hsk@sheffield.ac.uk](mailto:arq00hsk@sheffield.ac.uk)). And the table was made by the author.

	Summer (21/06/2003)	Winter (22/12/2003)
Sun-rise Time	03.52	09.47
Sun-set Time	23.15	15.13
Altitude of Sun	51.4° (at 13.35)	4.6° (at 12.32)

<sup>34</sup> Anon (1989) *Kylien Raitit Noormarkku kuvissa* (The Roads of Villages in Noormarkku Pictures), 100PRINT PORI, p. 15.

<sup>35</sup> About the company, see <http://www.a-ahlstrom.fi>.

such as housing situation, and the welfare for children or the elderly, were in advance of other municipalities in Finland.<sup>36</sup> The first and the second Ahlström generations' social concerns were continued by their daughter and son-in-law, Maire and Harry Gullichsen.

One facet of the Ahlström family's status in Noormarkku can be read in their grandiose mansions, Antti Ahlström's house, 'Isotalo' (Big House) built in 1877, and Valter Ahlström's 'Havulinna' (Twig Castle) built in 1901. Among several villages in Noormarkku, both were situated in the town where their industrial estates are, and the Villa Mairea was also to be located near them. The Isotalo is a wooden house on a stone structured base with a pointed high tower at the southwest corner. The large scale and elaborately decorated details shows the new-rich class's dignified bearing in the area like a feudal lord's manor house. Located right beside the Noormarkku River and the company's factories, the house was directly related with the master's business. On the other hand, the Havulinna sits on a gentle hillside about 500 m northwest west of the Isotalo. Some aspects suggest a similar image for the two houses, such as the huge size, several layers of pitched roofs and high towers. However, Valter's house has a more majestic air than his father's house. Firstly, it dignified itself by sitting at a higher level than other buildings in the Noormarkku centre including the Isotalo, and looking out over them. Secondly, the site for it is much more spacious than the other. So the surrounding landscape was also designed, and it has several accessory buildings behind and a long pergola in the front garden, too. Thirdly, the symmetrical road system in front of the house, despite the asymmetrical house plan, endows it with a neo-classical prestige. Indeed, the time when the house was built accords with the period that the Ahlström Company took a new turn, because it expanded and modernised its sawmills to overcome a deep recession at the end of the 19<sup>th</sup> century.<sup>37</sup> Fourthly, the plastered brick and stone structure of the Havulinna looks massive, while the wood siding and horizontal lines of the Isotalo let the house look comparatively

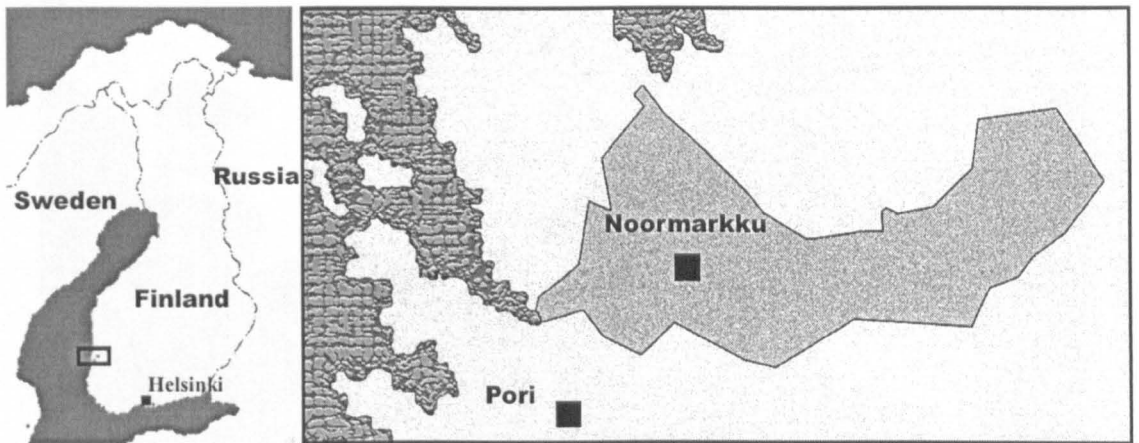
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<sup>36</sup> About the role of Antti and his wife Eva, see Anon (1989) *Kyliien Raitit Noormarkku kuvissa* (The Roads of Villages in Noormarkku Pictures), 100PRINT PORI, and about the role of Valter, see Schildt, G. (1986) *op. cit.* and (1998) *op. cit.*

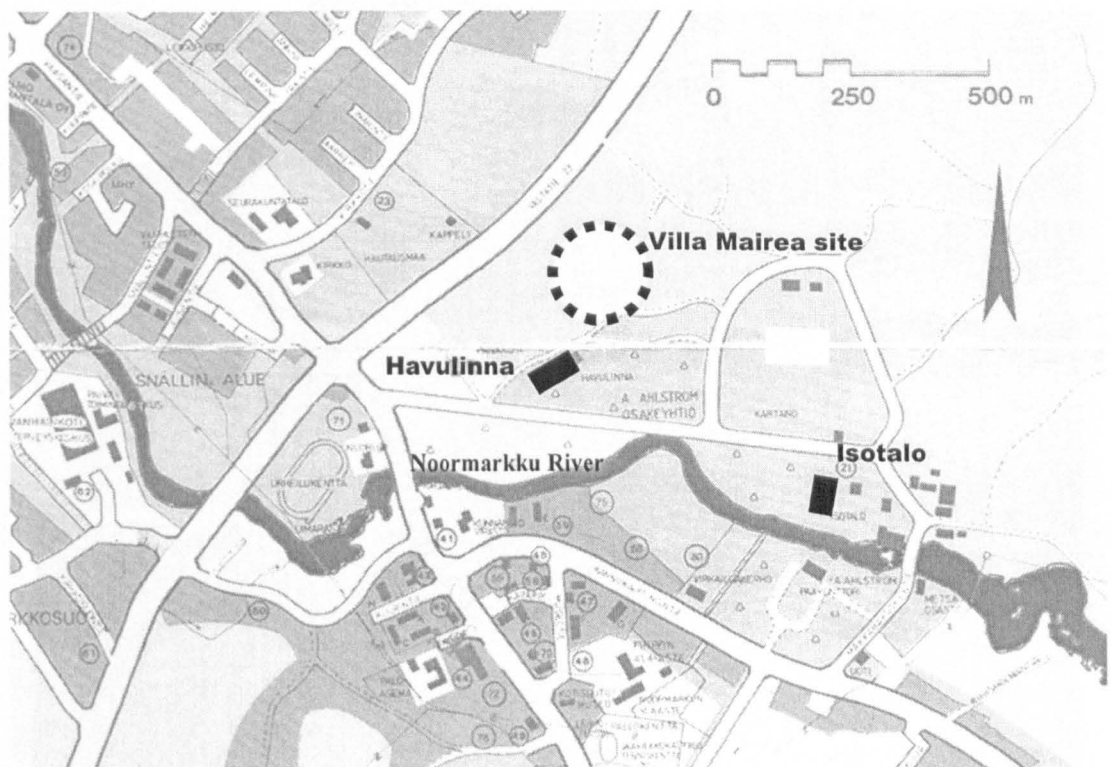
<sup>37</sup> The information of the company's history is from the website of the A. Ahlström Osakeyhtiö. Available from: <http://www.a-ahlstrom.fi/index.php?id=6&subid=1> [Accessed 30th December 2003]

light.

[Fig. 2-1] Map of Finland and Noormarkku Municipality



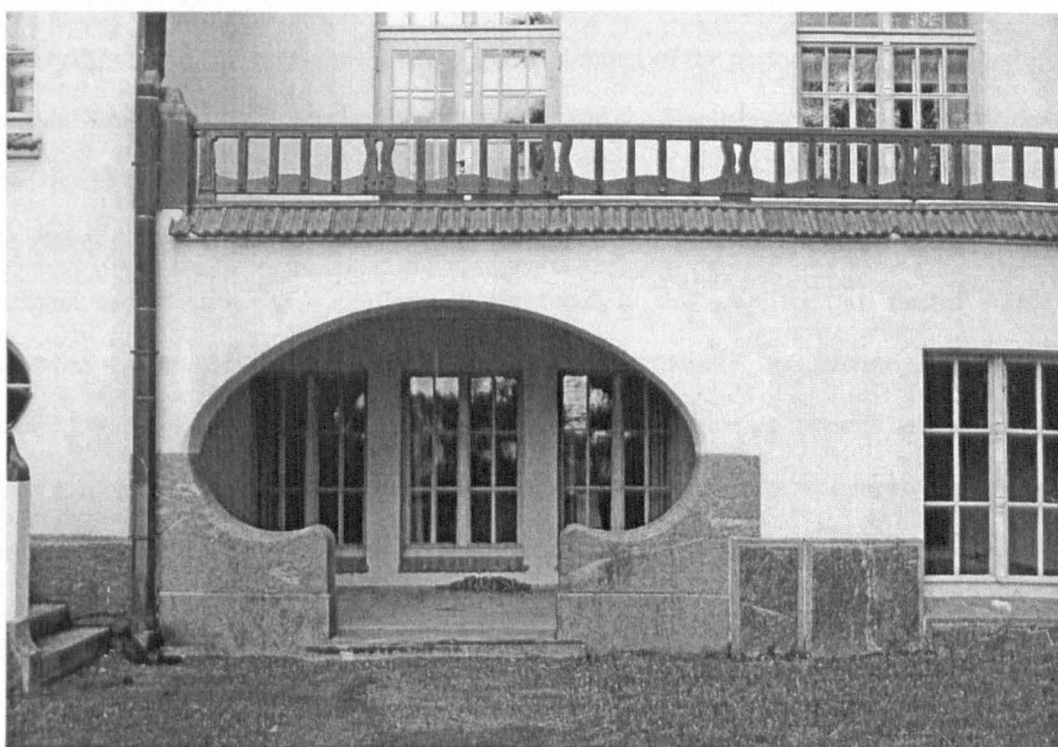
[Fig. 2-2] Town Centre of Noormarkku, author's reproduction of 'NOORMARKKU OPASKARTTA' (©Noormarkkun Kunta) with some complements

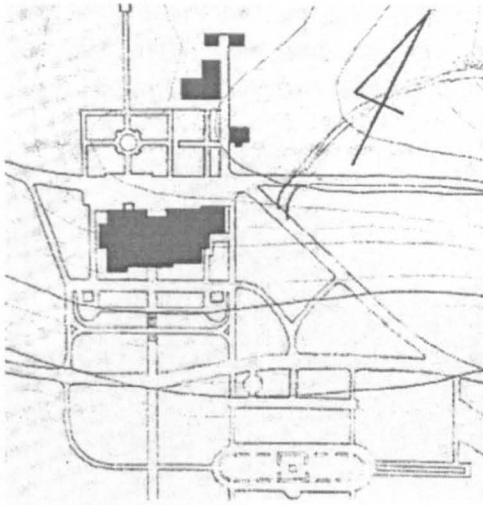


[Fig. 2-3] 'Isotalo' (Big House) for Antti Ahlström, 1877: south facade (top) and entrance detail (bottom)



[Fig. 2-4] 'Havulinna' (Twig Castle) for Valter Ahlström designed by Grahn, Hedman and Wasastjerna, 1901: southeast façade (top), art nouveau elements in curved opening and balustrade on southeast façade (middle), site plan in Aalto's drawing catalogued as 84/422 in Alvar Aalto Archive (bottom left) and several layers of roof (bottom right)

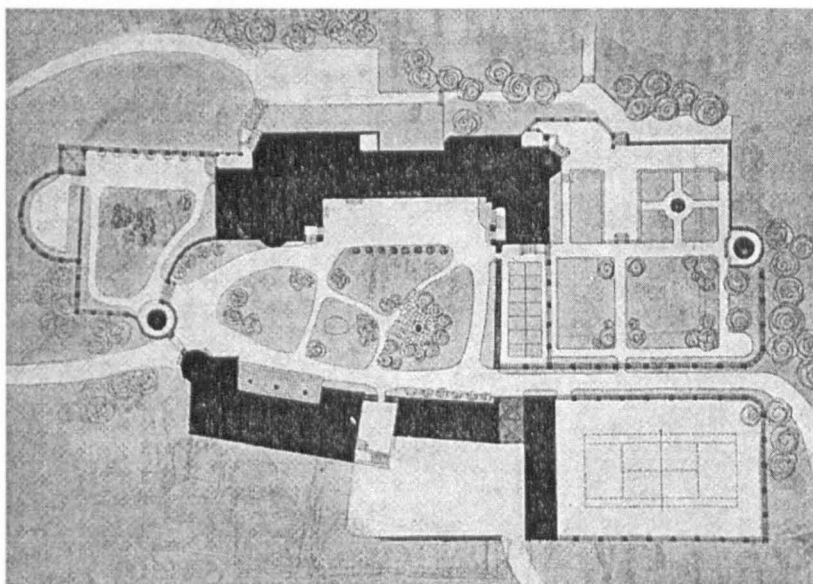
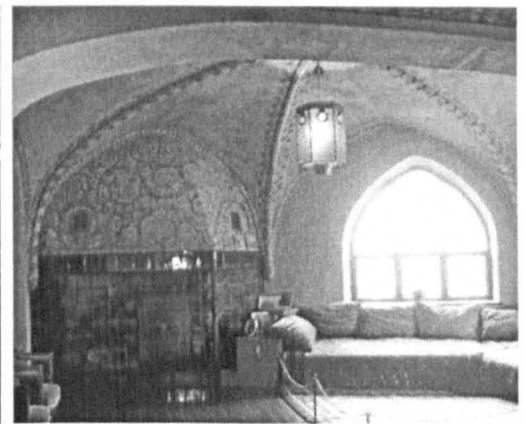




Havulinna's red tiled roof contrasting with dark green trees around it is most impressive in the façade. It reminds one of Saarinen, Lindgren and Gesellius's studio house Hvitträsk built in an outskirt of Helsinki in the same year 1901, one of seminal Finnish National Romantic buildings. Not only the roof but also some Art Nouveau elements of the Havulinna – for example, the curved opening and balustrade on the southeast façade – suggest an association with Hvitträsk, which becomes clear in the architectural history of Finland at the turn of the century. That is to say, both show the architectural mood of the period when Finnish architects were influenced by the continental Art Nouveau and the English Arts and Crafts Movement, and tried to fuse them with their own national manner. Moreover, according to Schildt (1998), the Havulinna was also designed by the partnership of three Helsinki architects – Grahn, Hedman and Wasastjerna – similarly to Hvitträsk. In this way, the two former Ahlström mansions accomplished a valuable tradition of Noormarkku architecture, which a new generation could not neglect. Considering also the Villa Mairea's modern achievement, the three mansions of the Ahlström directors could be regarded as a wonderful illustration of Finnish architectural transition during the modern era.



[Fig. 2-5] Saarinen, Lindgren and Gesellius's studio house Hvitträsk in an outskirt of Helsinki, 1901: view from the east (top), view from northwest (middle left), reception room (middle right) and site plan (bottom)



## 2.4. Aalto's Own Description of Villa Mairea

To understand an architectural project, we need to investigate what the architect describes about it.<sup>38</sup> Although the description does not cover all the stories about the project and some times it could be used as the architect's rationalisation for his idiosyncrasy or points of emphasis, it is true that we can read the architect's concept in the direct expression or between the lines. For this reason, Aalto's publication of the project description, 'Mairea' in [Arkkitehti], no. 9, 1939 is important.<sup>39</sup> Because it clarifies the key issues in this thesis – the experimental spirit and the relationship between art and everyday life at home – I insert the whole description here as a main text rather than as an appendix. But I avoid any commentary on it in this chapter because I will frequently quote and analyse some paragraphs in later chapters.

### Mairea

It seems to be a widely-held belief that there is a distinct opposition between small-scale, mass-produced housing on the one hand, and a residence designed solely for the needs of an individual on the other. Thus the specially designed individual house has fallen somewhat outside the trend which has made the production of small dwellings the main social issue. 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; 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. The individual architectural assignment can be treated as a laboratory experiment of sorts, in which things can be done that would be impossible with present-day mass

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<sup>38</sup> In contrast to Roland Barthes's concept of 'the death of the author', I am more interested here in tracing the author's – Aalto's – original concept in this project. Barthes, R. (1977) 'The Death of the Author', *Image Music Text*, Fontana, London, pp. 142-148.

<sup>39</sup> I will not transcribe Aalto's Yale University lecture in this chapter. In 'Chapter 5.2.2. Space to Combine Art with Life', however, I will quote some important paragraphs from the lecture.

production, and those experiments can spread further and eventually become available to one and all as production methods advance.

### *Architectural description*

The building stands alone on a hilltop near the old industrial estate of Noormarkku and the present headquarters of the A. Ahlström paper company. It is surrounded and isolated by an unbroken chain of coniferous trees.

The frame of the building is part steel, part perforated brick, and its intermediate floors are thick slabs insulated by porous concrete. The facades are part wood – teak and Finnish pine – and part slated and rough rendering.

The focal point is the courtyard lawn with swimming pool, enclosed on three sides by family rooms, balconies, a sauna bath, etc. The salient feature of the plan solution is a single large living room of about 250 square meters, for the family's everyday use. This room can be partitioned at will with thick, felt-coated, movable walls. The initial intention was to build a separate residence with an annexed gallery for the clients' art collection. Since their collecting is not of the conventional kind, however, stemming as it does from a deeper personal interest in painting, the idea of a separate art gallery was abandoned and a large, continuous room with partitions that can be grouped freely was designed to form a single architectural entity, in which painting and everyday life can evolve in a more direct manner. The movable partitions also serve as cabinets for the artworks, making it easy to change the paintings on the walls and to display only a few of them at a time if so desired. This avoids the stereotyped placing of artworks, which is inimical to personal experience.

The work of art are thus stored and handled rather like in a library, with only a small number of works picked for display at any one time. The purpose was to provide an example of the interrelationship of art and the home. This has wider significance to the extent that it can also be applied in a small apartment, even in a one-room flat, if the resident has the requisite personal relationship to art.

The goal was to avoid artificial architectural rhythm in the building without giving up pure "form", as long as it could be obtained in harmony with the structure or with an increased use of materials and surface treatments that are inherently pleasing to the senses.

In this building the designer sought to apply a special concept of form connected to modern painting. He believes that modern painting gives a building

and a home a deeper and ultimately more human material and formal accent than an ornament designed as an architectural appendage can. Modern painting may be on the way to developing a set of forms with the capacity to evoke personal experiences in connection with architecture, superseding historicist ornamentation, which merely serves the function of representation.

Some technical details:

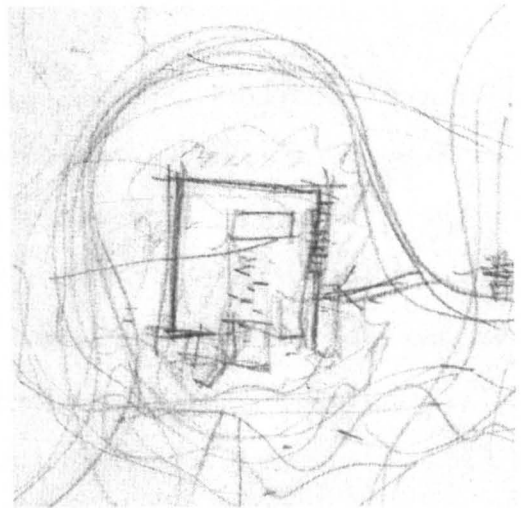
Local reddish slate was used in the exteriors and interiors; some of the floors are brick, ceramic tile, or hornbeam wood. Ventilation of the large living room was arranged by using the pine panelling fixed under the concrete ceiling as a filter (it contains 52,000 vents) that distributes clean air evenly throughout the room. Most of the building has a system of air conditioning, which also provides some of the heating. There are a number of sliding windows with insulation that can be strengthened with special materials during the winter season. Some of the external walls are also movable, making it possible to “open the house completely toward the garden.”

The architect worked on the design in close collaboration with the clients, and was assisted by the architects Jarl Jaatinen (at the office) and Paul Bernoulli (on site).<sup>40</sup>

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<sup>40</sup> Aalto, A. (1939) ‘Mairea’, *Arkkitehti*, no. 9. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki.

### **Chapter 3. Villa Mairea, The Lost Memories**



*A set of crude, incomplete and imperfectly formed drawings can aid in the crystallization of a formal concept. ... A study of such drawings can help to unveil modes of conception and formal preconception.*

Mark A. Hewitt, 1989 (*Perspecta* 25, pp. 163-164)

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## Chapter 3.

### Villa Mairea, The Lost Memories

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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. According to Schildt (1994a), Aalto could not afford to look back on past works while indulging in his current pursuits, which means that all his material was not in order. 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 Archive, and it was in 1994 that Garland Publishing, Inc. published Aalto's whole drawings from 1917 to 1939, making them available to general researchers.

Before this publication, some researchers – Pearson (1978), Porphyrios (1982), Pallasmaa (1985), Schildt (1986) and Weston (1992) – presented various early versions of the Villa Mairea. But only a few drawings were shown and they were also often different ones in each account. What is more, the drawings were not described in depth because the writers' main concerns were not the house's design process. It was in 1998 that Junani Pallasmaa dealt with the whole design process in the monograph he edited.<sup>1</sup> In spite of the significance as the first attempt, however, the lack of deep analysis and interpretation of the drawings let the book section 'Evolution of the Design Concept' remain as a sequential array of the house's whole versions. There is room, therefore, for a further look at the evolution from the initial sketches to the final plan.

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<sup>1</sup> Pallasmaa, J. (1998) 'Evolution of the Design Concept'. In Pallasmaa, J. (ed.) (1998) *Alvar Aalto: Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, pp. 33-47.

### 3.1. From Egg to Trout: Design Evolution of Villa Mairea

But as my personal and emotionally based insight I would like to add that architecture and its details are connected in a way with biology. They are perhaps like large salmon or trout. They are not born mature, they are not even born in the sea or a body of water where they will normally live. .... And as the fish egg's development to a mature organism requires time, so it also requires time for all that develops and crystallizes in our world of thoughts. Architecture needs this time to an even greater extent than any other creative work. (Aalto, 1947)<sup>2</sup>

To design a building is a really time-consuming process. It takes much time and energy for an initial idea to 'develop and crystallize' into a final result. Aalto compared this process with that of a trout. Just as a trout needs a long time to fully 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. Kenneth Frampton seems to have misinterpreted the above passage in his important book [Modern Architecture: A Critical History] (1980). He pictured the L shape of the main mass of the Villa Mairea as a 'fish' element and the swimming pool as an 'egg' element.<sup>3</sup> And this interpretation was also applied to the form of Säynätsalo Town Hall (1949-52). However, we cannot but point out his confusion of a diachronic maturing process and a biomorphic image, at least so far as he juxtaposed the above text by Aalto and the 'fish-egg' comparison. William Curtis (1996) reiterates this description by regarding the whole plan as 'a curved fish with head, body and tail'.<sup>4</sup> Curtis's description seems to be a mixture of Frampton's and Andres Duany's (1986).<sup>5</sup> Duany extracted the 'head and tail' principles in Aalto's architecture that should be read as a complementary duality or as a hierarchical order. Even if Curtis's biological metaphoric interpretation is possible in a degree by itself, it is true

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<sup>2</sup> Aalto, A. (1947) 'The Trout and the Mountain Stream', *Domus*. Republished in Schildt, G. (ed.) (1978), *Sketches Alva Aalto*, MIT Press, Cambridge, MA. pp. 96-98.

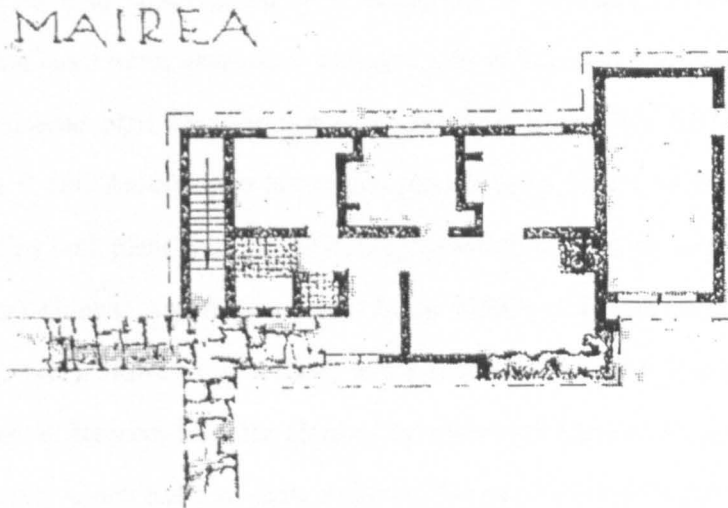
<sup>3</sup> Frampton, K. (1992) *Modern Architecture: A Critical History*, Thames & Hudson. p. 201.

<sup>4</sup> Curtis, W. J. R. (1996) *Modern Architecture Since 1900*, Phaidon, London, p. 349.

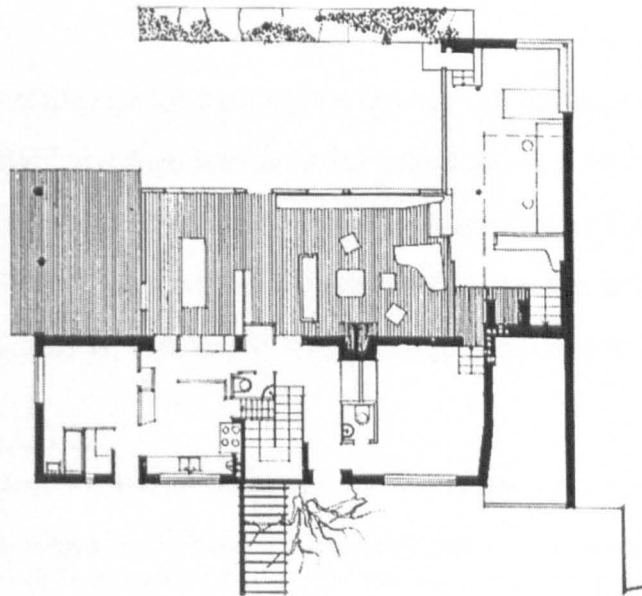
<sup>5</sup> Duany, A. (1986) 'Principles in the Architecture of Alvar Aalto', *Harvard Architecture Review 5: Precedent and Invention*, Rizzoli, New York, pp. 104-119.

that its allusion to the two former studies leaves 'clear' ambiguity. To sum up, Aalto's mention of 'fish-egg' has to be compared with an architectural design evolution not to the form, and the 'head and tail' principles don't have to be necessarily related to the biomorphic evocation.

[Fig. 3-1] Aalto's first proposal for Villa Mairea, late 1937, from Porphyrrios (1982, p. 37)



[Fig. 3-2] Aalto's own house at Riihitie in Munkkiniemi, Helsinki, 1934-36





The nearest thing we have to an egg is a first proposal for the house, when Aalto got the commission for it in late 1937. The first proposal was just a rustic hut with a rectangular plan and a pitched roof. Strangely, this preliminary version is found only as a single plan in Porphyrios's book (1982).<sup>6</sup> 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 rooms and a slightly protruding large room attached to the right side of the main body (possibly a studio). Seeing the rectangular plan with the projecting room, it is possible for us to notice a similarity between it and Aalto's own house designed 2 years before in Riihitie – especially when confronting both plans side by side in Porphyrios's book. Or, we might be reminded of Aalto's forerunner Gunnar Asplund's summer house (1937) at Stennäs that has a shifted end room (see Fig. 4-25). However, if we look at the first Mairea a little closer, we will perceive some significant differences from the plans of the other two. Most of all, the protruding room of the first Mairea, which has a separate entrance, has no relation with the main body of the house, and it does not seem to be interrelated with the outside space either. In contrast, those of the other two houses contain the most important spaces, a studio and a living room, and played a critical role in enclosing each courtyard.

Porphyrios claims that Maire rejected this proposal because she wanted 'something Finnish but in the spirit of today',<sup>7</sup> and from then on, 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<sup>8</sup>, and some uncatalogued ones). According to the Garland book, the drawings were classified as 'sketches, 1938-1939' (approximately 240 drawings), 'early

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<sup>6</sup> Porphyrios, D. (1982) *Sources of Modern Eclecticism*, Academy Edition, London, p. 37.

<sup>7</sup> *Ibid.* p. 36.

<sup>8</sup> The Alvar Aalto Archive follows 'a classification system developed by the Museum of Finnish Architecture. The first two digits are a code for the type of building or project in question and are followed by a slash. The second number indicates the order in which the drawings were done.' For example, the first number 84 means 'Private houses in town, large villas'. 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

versions, 1938' (18 drawings), 'Proto-Mairea, 1938'<sup>9</sup> (19 drawings), 'final version, 1938-1939' (approximately 500 drawings), 'later alteration drawings' (11 drawings), and 'later measurement drawings, 1991' (9 drawings). Exactly speaking, the 'early versions' belong to early 1938 before April, the 'Proto-Mairea' to April 1938 – he signed it on April 14, the 'final version' between May 1938<sup>10</sup> and January 1, 1939 – the last drawing is dated on that day. Here, one thing that we should not miss is that the 'sketches, 1938-1939' do not belong only to the former phase before the 'early versions'. That is to say, all the freehand sketches during the whole design process belong to the 'sketches, 1938-1939'. 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'.<sup>11</sup> This is helpful, but the first 4 phases blur into each other, and differentiating the early sketches is problematic. In this thesis, therefore, I will divide the design process into 4 stages: stage of initial sketches, stage of early versions, stage of 'Proto-Mairea', and stage of final version. And, I further subdivide the early versions into 3 phases.

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<sup>9</sup> 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*, Rizzoli, New York. p. 154.

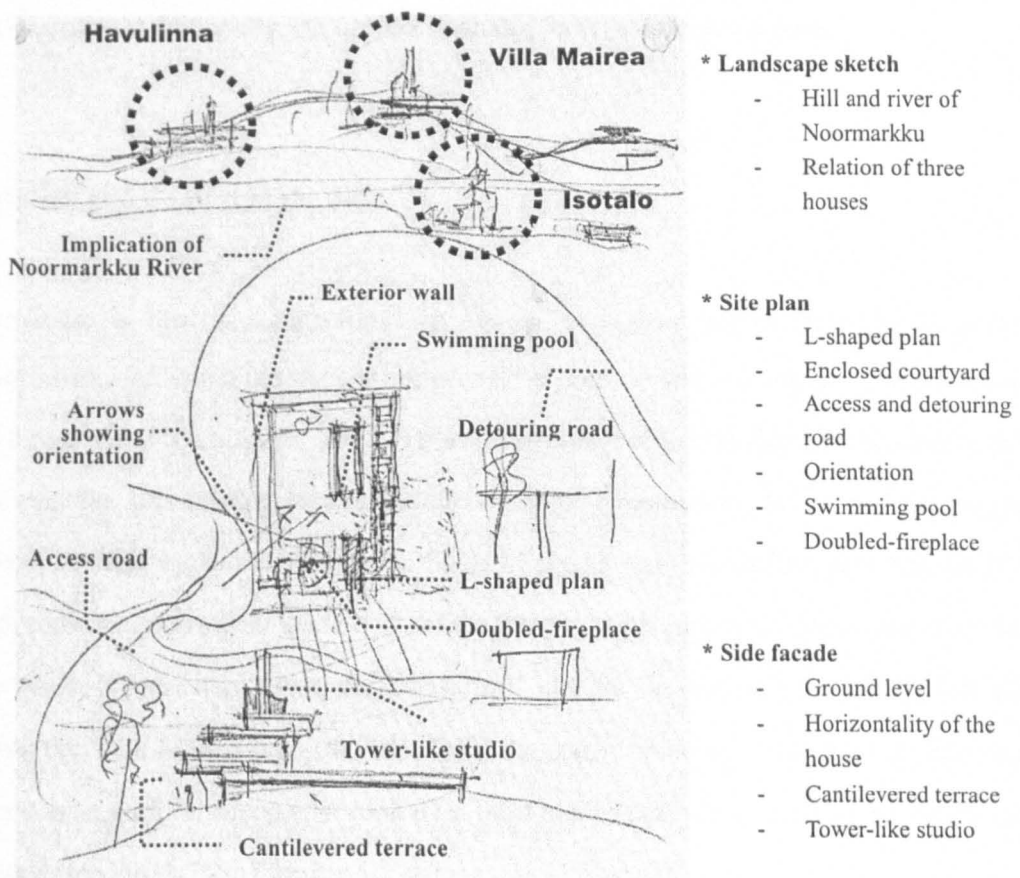
<sup>10</sup> *Ibid.* p. 161.

<sup>11</sup> Pallasmaa, J. (1998) 'Evolution of the Design Concept'. In Pallasmaa, J. (ed.) (1998) *Alvar Aalto: Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, pp. 33-47.

### 3.1.1. Stage One: Initial Sketches (Early 1938, possibly around January and February)

As I already implied, the plan of the first Mairea (late 1937) in Porphyrios (1982) is not preserved in the Alvar Aalto Archive, which is strange. Thus I will except it here and only deal with the remaining drawings from early 1938, which reveal Aalto's various ideas. And most of the concepts of the final version had already been studied through the countless initial sketches. I will describe the concepts in four categories here: 'Location and Context of the Site'; 'Enclosed Courtyard and L-shaped Plan'; 'Cantilevered Terrace and Stepped Plan'; and 'Volumetric Point and Undulating Wall of Studio'. In addition, I will select some plans and set

[Fig. 3-3] Sketch showing most of Villa Mairea concepts <84/164>



them in order, to show the diachronic design transition. Before entering into the first category, however, I had better mention briefly the drawing 84/164 (Fig. 3-3) because it covers most of the concepts clearly.

The drawing comprises three sketches. The top one tells the location of the Villa Mairea and its relationship with former Ahlström houses. The middle one is a plan of the house, and it already resembles the final plan very much. The house is L-shaped and has exterior walls in the other two sides, so the court was enclosed in all sides. There are a rectangular swimming pool in the courtyard and a doubled-fireplace in between the inside and the outside. Arrows notify northward, and an access road from the south revolves clockwise around the house. Lastly, the bottom sketch shows that the Villa Mairea was sited on top of a gentle hill. A bold cantilever and the horizontality of the layers reveal the influence of Frank Lloyd Wright's Fallingwater. Additionally, the tower-like studio forms a volumetric point

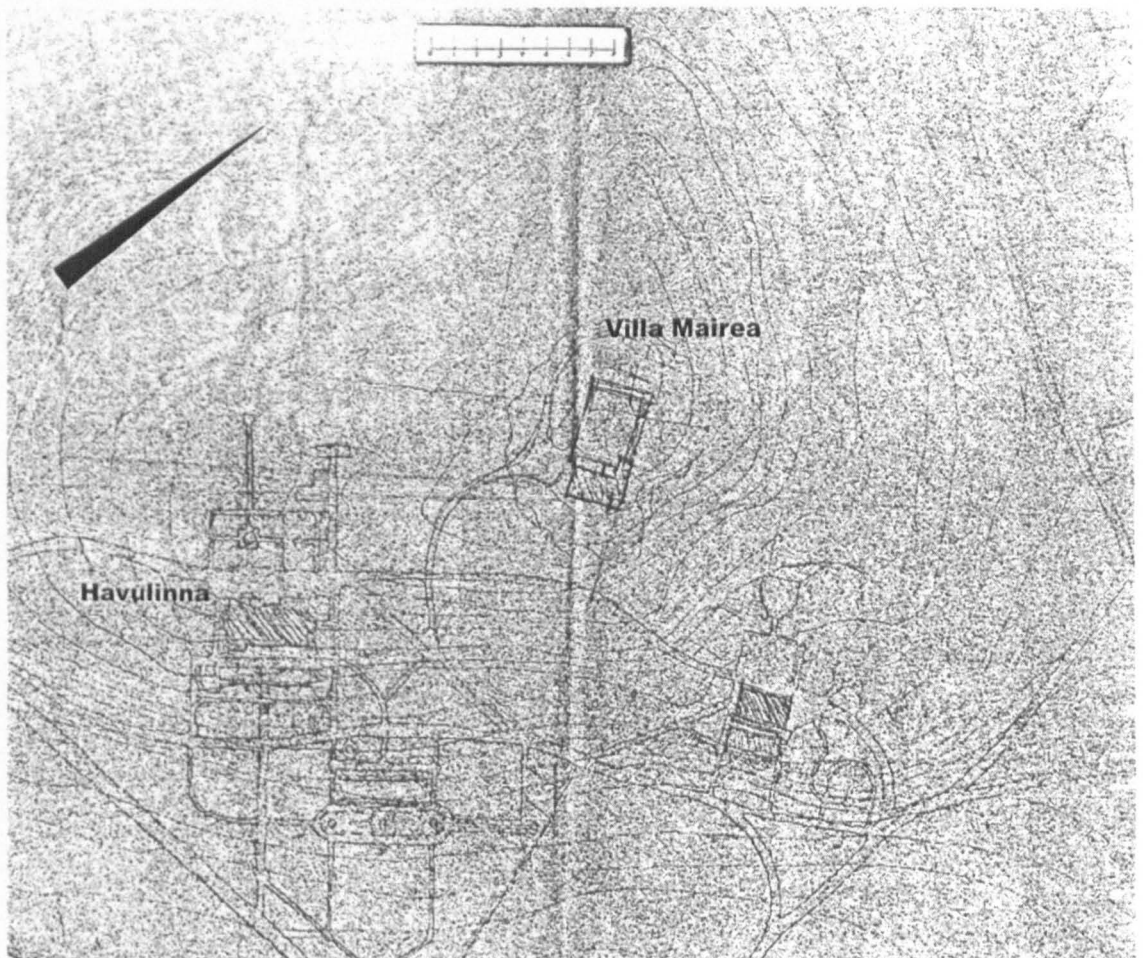
### **Location and Context of the Site**

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 around 100 metres northeast of the 'Havulinna', and 500 metres northwest of the 'Isotalo'. Conceptually, it looks out over the two existing houses and the whole of Noormarkku, but in fact the prospect is almost blocked by surrounding trees. Some of the presumably earliest sketches, 84/164 and 215, 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 (see Fig. 3-70 in Chapter 3.2.3).

[Fig. 3-4] Sketches showing Villa Mairea's location <84/164, 215 and 166>



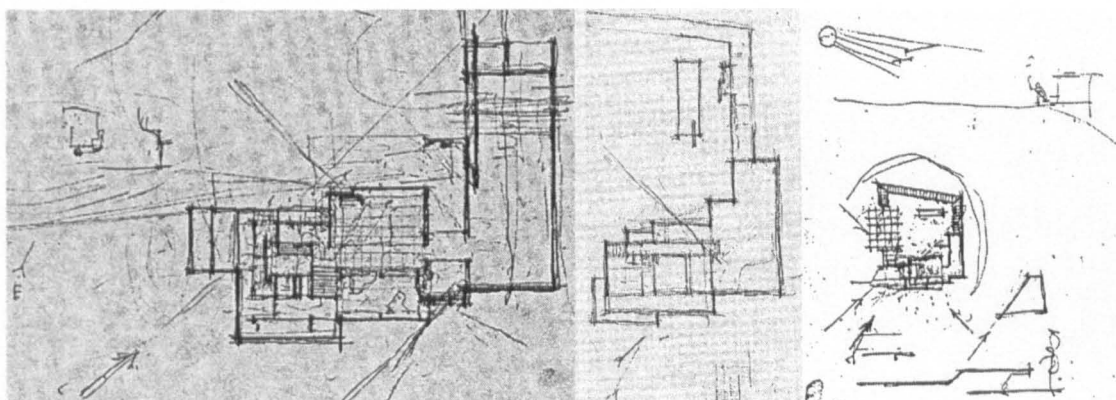
[Fig. 3-5] Site plan in Initial Sketch stage <84/423>: 'Isotalo' is far beyond this boundary (see Fig. 2-2 and Fig. 3-70).



Orientation cannot be unrelated to location. During this stage, the living room of the Villa Mairea continually faced southeast, which direction goes through between the two former houses. Of course, this orientation was also closely related to the movement of the sun. The

drawing, 84/213 (Fig. 3-6) shows us by arrows how sunshine comes into the inside in the morning, at noon, and in the evening. At any rate, this southward plan imbues each interior space with unique characteristics. For example, the morning sun was induced to throw light on the family's breakfast table – this 'family' dining (breakfast) room was removed in the final version; the living room can admit enough sunshine during the day; and in the final version, the evening glow that comes through the large living room window splits into many fractions in the screen of the poles as amidst a thick forest. Proceeding like this, accepting the major premise of location and orientation, Aalto could carry on energetically with the design work of the Villa Mairea.

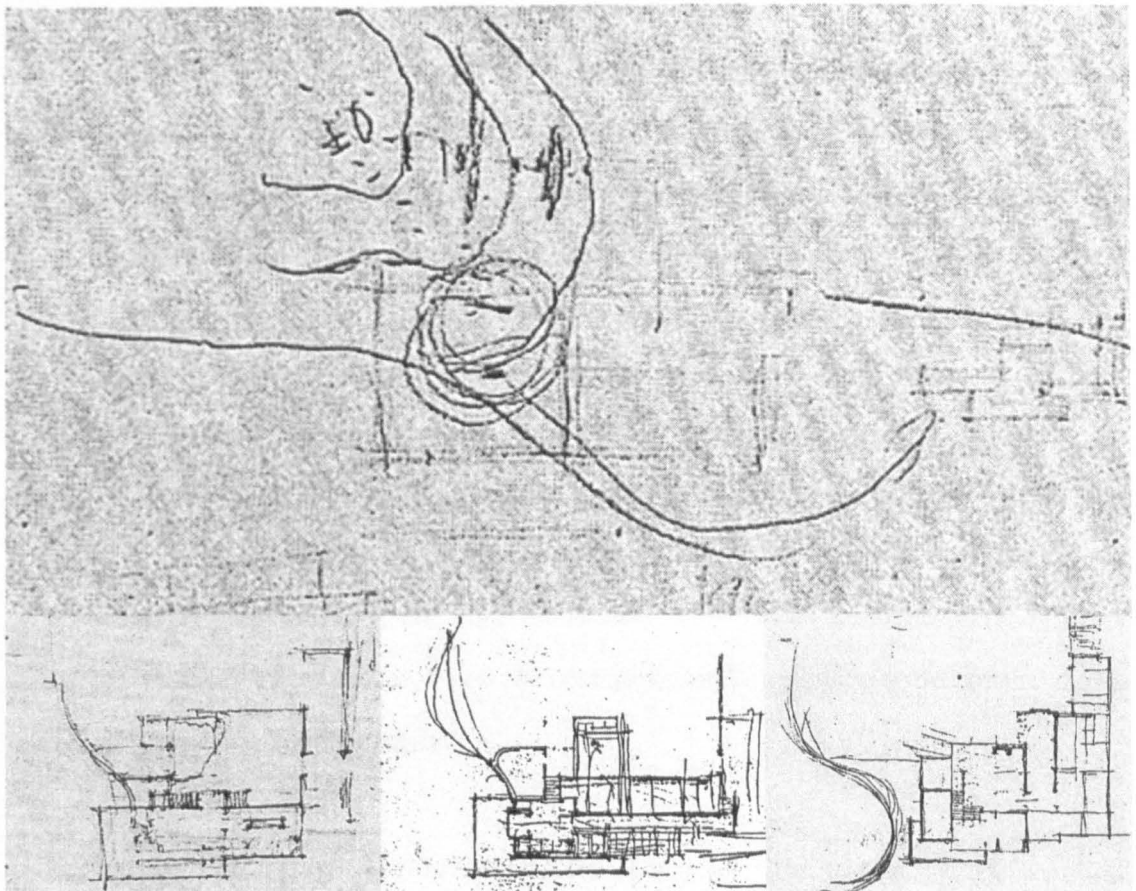
[Fig. 3-6] Sketches showing orientation with arrows <84/213, 221 and 268>



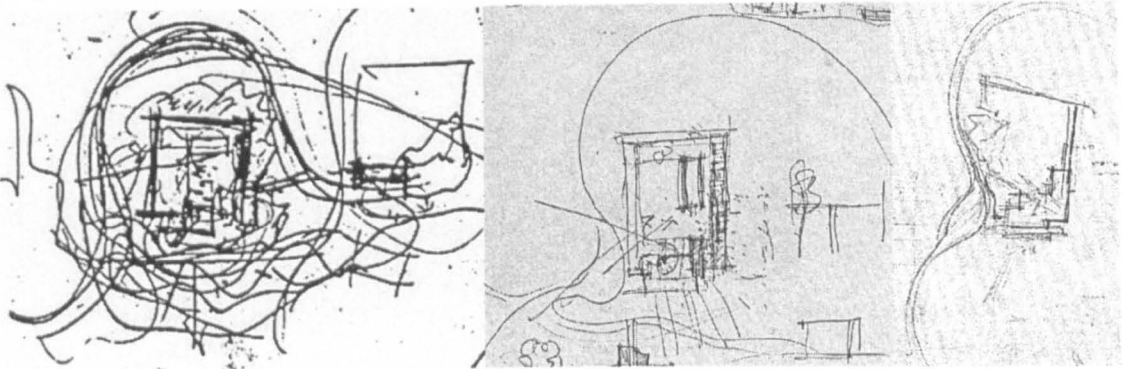
Regretfully, the Alvar Aalto Archive does not have initial sketches with a detailed contour study, and thus we cannot help guessing a rough relation of the house and the topographical context. However, some sketches reveal fragments of contour lines, as we can see in [Fig. 3-7]. The sketch 84/238 with a presumable level figure ( $\pm 0$ ) and several lines shows Aalto's concern for the terrain, although it is so ambiguous that we cannot tell which part the contour lines belong to. But other drawings show that Aalto adapted the house to the topographical context. The curvilinear lines in the left (southwest) side of the house must be following the contour without doubt. Particularly, the curvilinear lines in the sketches 84/199 and 271 even

regulate the interior spaces. This curvilinear form remained up to the 'Proto-Mairea' through the early versions. On the other hand, the contour lines were fused well with an access road's boundary as seen 84/284 and 251 (Fig. 3-7 and 3-8). From the initial sketches, the idea of access to the Villa Mairea was very clear. The road comes from south, the bottom of the hill, and arrives at the southern corner of the house. And the road continually goes around behind the house. In front of the entrance of the house in the southern corner, the road becomes broad, which allows for a cars' temporary stop there, while in contrast the narrow part of the road shows the speedy flowing of the movement symbolically. This concept continued consistently during the stage of Initial Sketches without change.

[Fig. 3-7] Fragments of contour lines <84/238, 271, 199 and 284>



[Fig. 3-8] Access and detouring road <84/215, 164 and 251>



### Enclosed Courtyard and L-shaped Plan

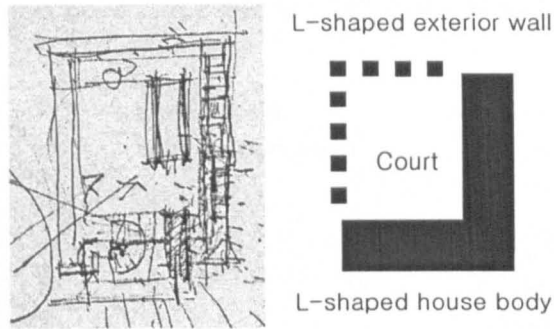
By the sketches 84/164 and 215 (Fig. 3-8), Aalto had developed the concept of the enclosed courtyard through many drawings in this initial stage. To be precise, the enclosure was of two types: one was by two wings of the house, and the other by the exterior walls. That is to say, the southeast and the northeast sides were enclosed by the L-shaped house, and the southwest and northwest sides by the L or U-shaped exterior walls. By being enclosed on all four sides, the courtyard became completely isolated from the outer world. Nevertheless, it was self-contained, because it remained open to the house itself and moreover it had its own swimming pool and fireplace from the start. It means that the courtyard behind the house was initiated as a hidden paradise only for people belonging to the noble palace. The value of the enclosed courtyard as an idealist garden can stand comparison with that of Red House (1857-59) by Philip Webb and William Morris,<sup>12</sup> and the courtyard fireplace alludes to that of the above-mentioned Asplund's summer house.<sup>13</sup>

<sup>12</sup> See Mackail, J. W. (1938) *The Life of William Morris*, Longmans, Green and Co., London, New York, Toronto, and Blundell Jones, P. (1986) 'Red House', *Architects' Journal*, Jan. 15. pp. 36-56. And for the comparison between the Red House and the Villa Mairea, 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 20<sup>th</sup> EAAE Conference, May 8-11*. Stockholm-Helsinki, pp. 83-97.

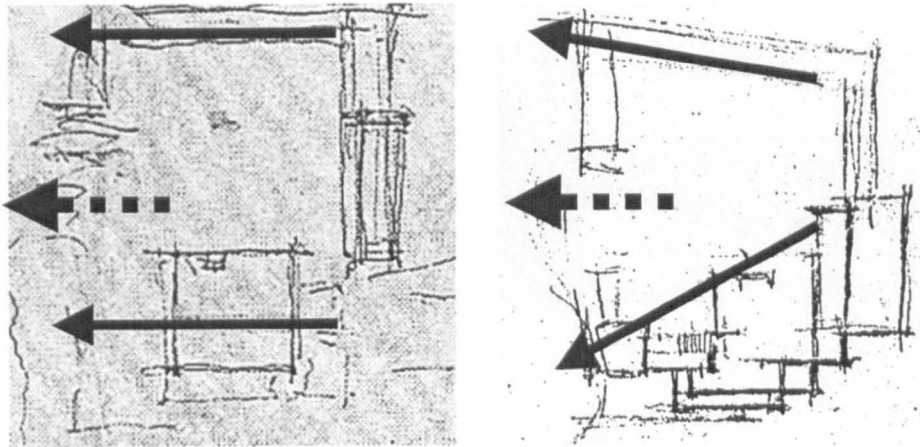
<sup>13</sup> For the Asplund's summer house, see 'Chapter 4.3. Asplund's Summer house at Stennäs, 1937'.



[Fig. 3-9] Enclosure of courtyard <84/164>



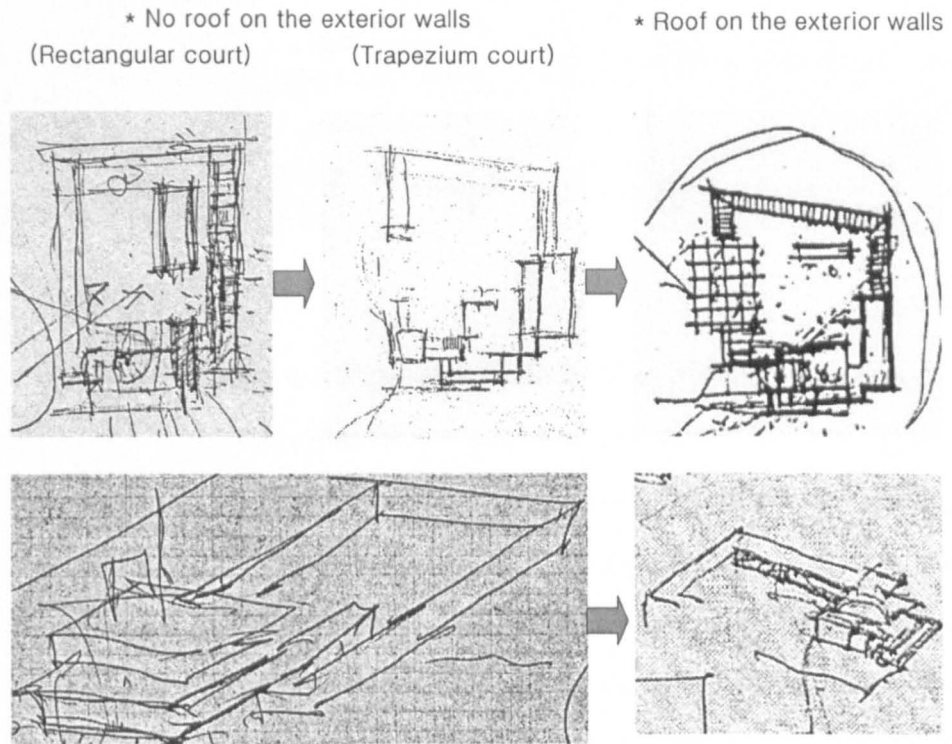
[Fig. 3-10] Comparison of rectangular and trapezium courtyard shape <84/166 and 197>



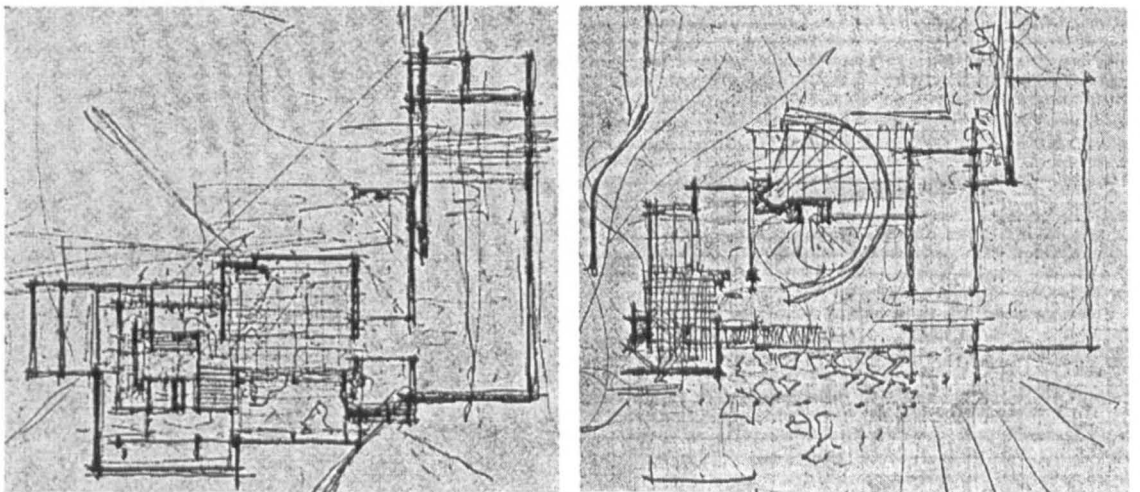
During the initial sketch stage an interesting thing happened, that is, a change of the courtyard shape. In the earlier sketches the enclosed courtyard was rectangular, but after a pergola was conceived in the southwestern wall, the court spread its wings more towards the filtered opening. Although the enclosed courtyard was separated from the outside, Aalto gave it room to interlock with the outer world. Additionally, a roof was added on the exterior walls in a later sketch of this stage.<sup>14</sup>

<sup>14</sup> The sketch that has roofs on the exterior walls (84/268 and 166) could also belong to the Early Version 1 because they are freehand sketches for it. And the roof implies Japanese influence. Compare drawings and models of Early Version 1 (Chapter 3.1.2) with Japanese examples of [Fig. 5-108 and 109] (Chapter 5.3.2).

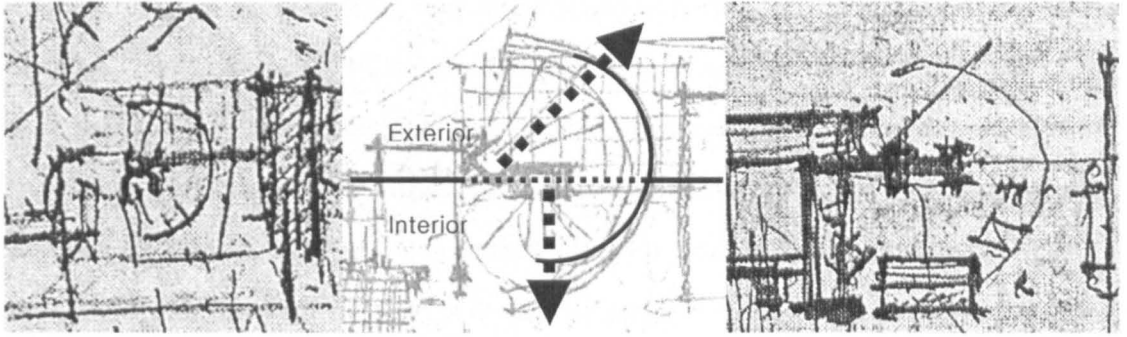
[Fig. 3-11] Change of courtyard shape <84/164, 197, 268, 296 and 166>



[Fig. 3-12] Study on main body of the house <84/213 and 293>



[Fig. 3-13] Study on doubled-fireplace <84/164, 293 and 295>



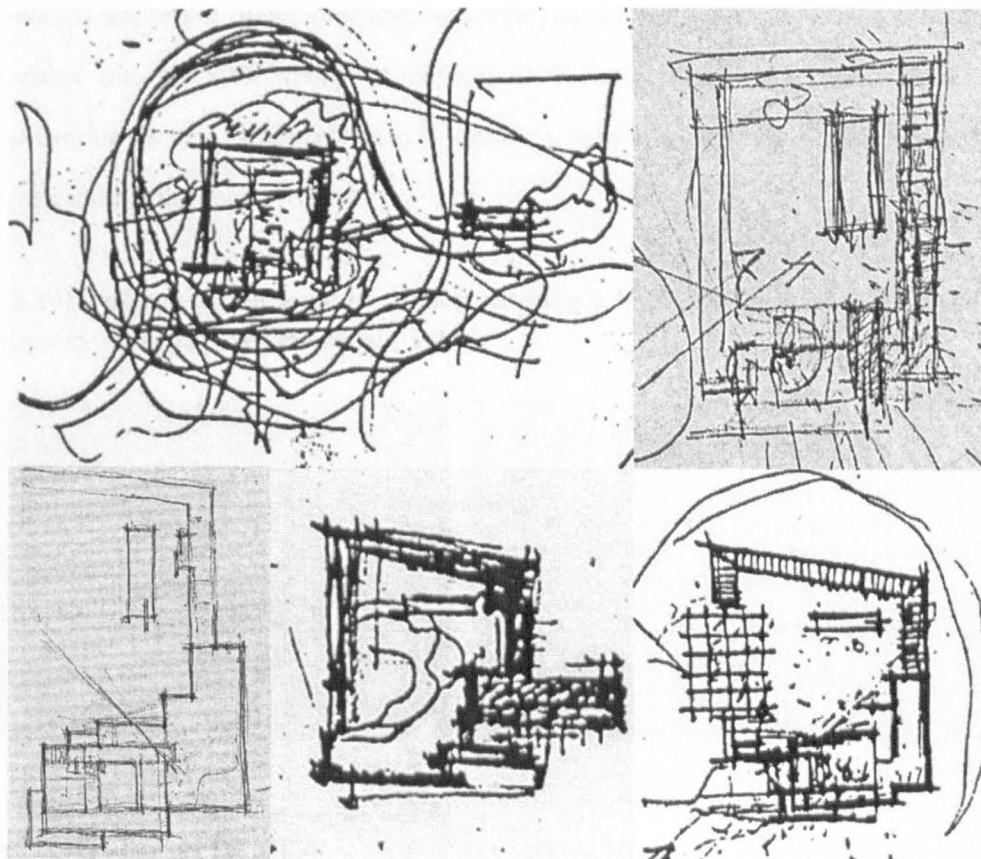
The L-shaped body of the house is important not only because it encloses a courtyard, but also in reference to the ‘aristocratic Scandinavian residence’ that showed hierarchy in its wings.<sup>15</sup> In the Villa Mairea the southeastern wing of living rooms is hierarchically superior to the northeastern one of servant spaces. The sketches, 84/213 and 293 (Fig. 3-12) show us roughly the composition of the L-shaped main body. In both, the southeastern (horizontal) wing was sketched as a living area, and the northeastern (vertical) wing was just blanked because it was to be designed as hierarchically inferior. Particularly in the sketch 84/293, we even recognise detailed floor patterns. One corner of the southeastern wing – possibly an entrance hall – was paved with smaller tiles and the courtyard part behind the fireplace with larger tiles, whereas rustic stones were used for the southern outside. Most of all, I hope to emphasise the significance of the doubled-fireplace in this drawing. One orients towards the living room, and the other towards the courtyard. However, they do not back each other exactly but turn aside at an angle of 135°. Nevertheless, some arcs around the fireplaces and radial lines from each one tell us the architect’s intention to combine the inside with the outside, and the outside with the inside. In other words, the enclosed courtyard had been regarded as an open interior space.

On the other hand, it can be said that the swimming pool is a focal point of the courtyard. The swimming pool had been a long rectangle located at a northern corner of the inner court.

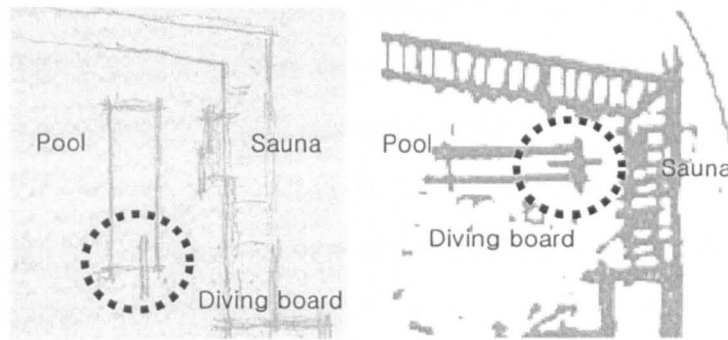
<sup>15</sup> Porphyrios, D. (1982) *op. cit.* p. 36. Also, see ‘Chapter 5.1.1. L-shaped Plan’.

Depending on which sketch is looked at, however, the longitudinal direction is different. That is to say, the pool is horizontally long in the presumably earliest sketch (84/215) and in the presumably last sketches (84/211 and 268), but in-between sketches have a vertically long pool. It might be a result of the courtyard shape in this stage. The courtyard is vertically long in the latter case, while in the former it is almost square as in the sketch 84/215. Among the sketches, 84/221 and 268 (Fig. 3-15) describe clearly a sauna and a diving board as well as a pool. But the relation between the pool and the sauna is different according to the diving board in each drawing. The pool and the sauna were not intimately related each other in the sketch 84/221 because the diving board is not positioned between the two, but in the sketch 84/268, the diving board plays an important role in relating the sauna and the pool, acting as an intermediary. Therefore, the latter became more Finnish, in that it reflects more faithfully the Finnish custom of swimming following a sauna.

[Fig. 3-14] Swimming pool in courtyard <84/215, 164, 221, 211 and 268>



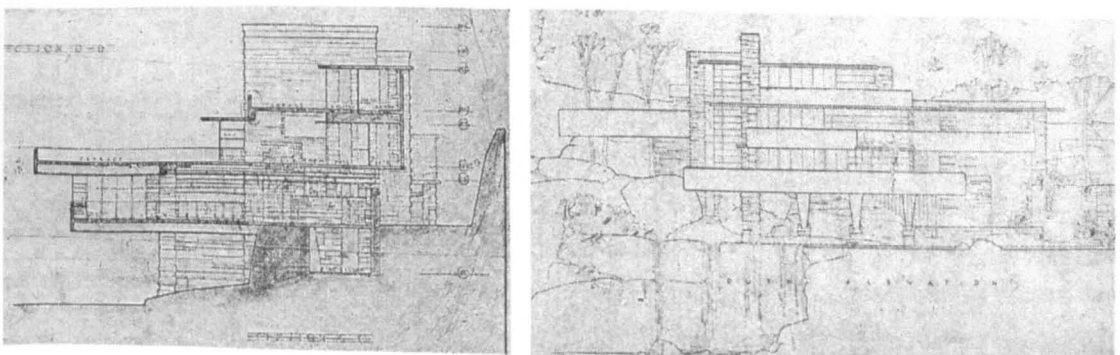
[Fig. 3-15] Relation between swimming pool and sauna <84/221 and 268>



### Cantilever Terrace and Stepped Plan

When studying the Villa Mairea, we cannot help mentioning the American master Frank Lloyd Wright's Kaufmann House (1934-37), also called Fallingwater. The influence of Fallingwater has been discussed by many authors (Schildt, 1986; and Weston, 1992). Aalto was strongly impressed by the dramatic cantilevers of Wright's *tour de force*, and he tried the same effect with the Villa Mairea. According to Göran Schildt (1986), Aalto even tried to change the site for one beside a stream.<sup>16</sup> Aalto's ambition to 'surpass Wright's masterpiece' made him imitate the rival.

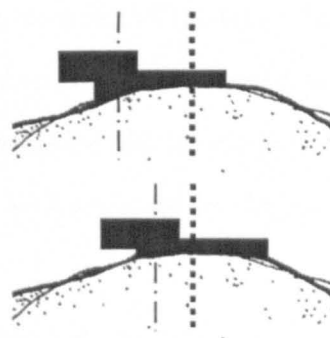
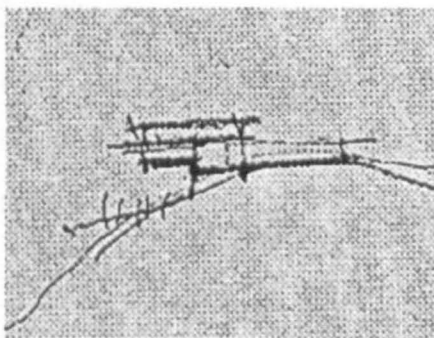
[Fig. 3-16] Fallingwater drawings: section showing a bold cantilevered terrace (left) and elevation showing tapered columns (right)



<sup>16</sup> Schildt, G. (1986) *op. cit.* p. 154.

Aalto's endeavour to heighten the effect of a bold cantilever terrace is manifest in several ways. The first is the location of the house. Although he could not get a site near a stream, he tried to complement the loss in the hilly site. Aalto deliberately located the house on the south slope of the hilltop, slightly pushing it aside from the apex (Fig. 3-17). This subtle difference is significant, as he could not get an enough height for the dramatic effect by seating the house on the apex of the hill. Aalto also overemphasised the slope of the hill in the initial sketches, because the real site has a very gentle slope. But that was perhaps the point. Through the exaggerated drawing, we can read better Aalto's intention. The second way of adding height was to add a basement. By inserting it under the terrace, Aalto could raise the latter more. Accordingly, the basement between the lower level of the front and the higher level of the back came with complicated interior level changes, which would be one of the main themes in later design stages. On the other hand, the freeform basement wall (84/202) alludes to the natural cliff and the rapids in Fallingwater, as Schildt (1986) and Weston (1992) have pointed out. The third way to exaggerate the height is the tapered columns under the terrace (84/278). By tapering them towards their bases, Aalto strove to maximise the dramatic effect, which evoke the columns of the Turun Sanomat building (1928) that he designed about a decade before. Interestingly, Wright's experiment on the tapered columns in Fallingwater was soon repeated in his own design of the Johnson Wax Company building (1937-39), at the same time as Aalto's Mairia design. Here Wright presented mushroom pillars wonderfully (see Fig. 5-69).

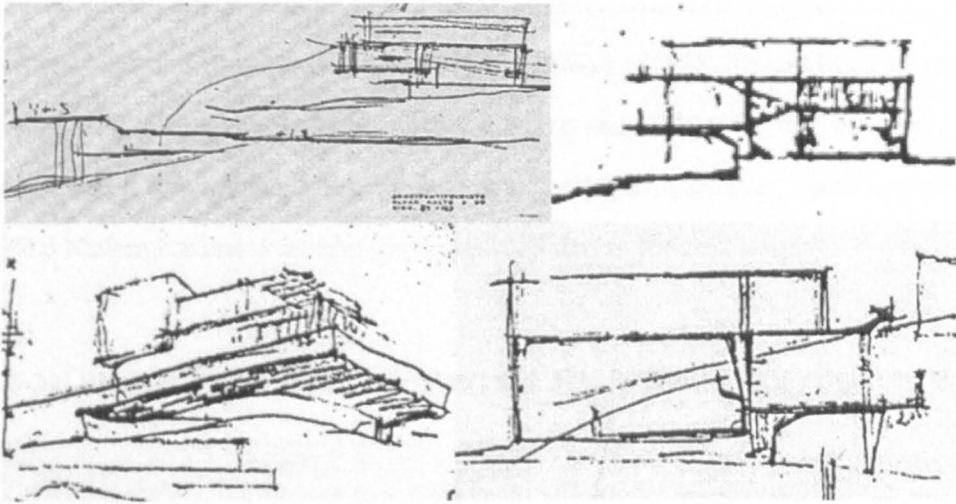
[Fig. 3-17] Cantilever effect according to the location <84/213>



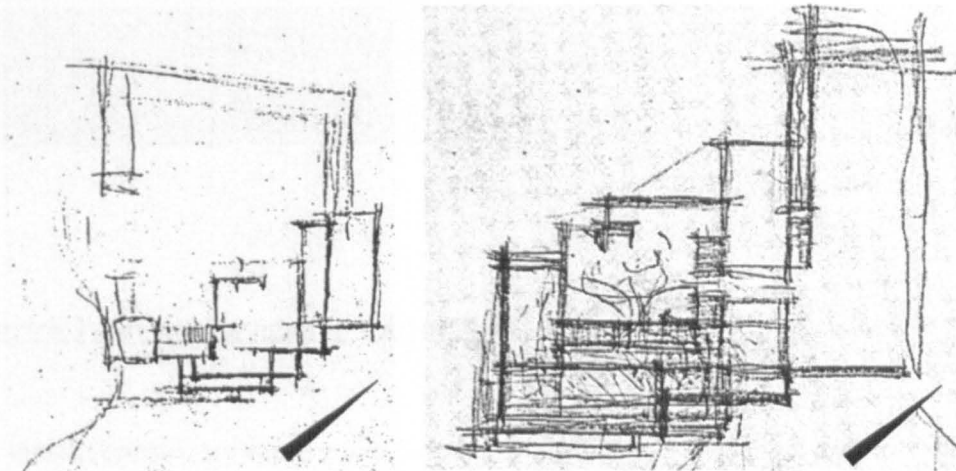
\* House set slightly  
aside from the apex:  
dramatized cantilever  
effect (Aalto's scheme)

\* House set on the  
apex: relatively weak  
cantilever effect

[Fig. 3-18] Bold cantilever terrace studies <84/169, 281, 202 and 278>



[Fig. 3-19] Study on a stepped plan of the Villa Mairea <84/197 and 282>

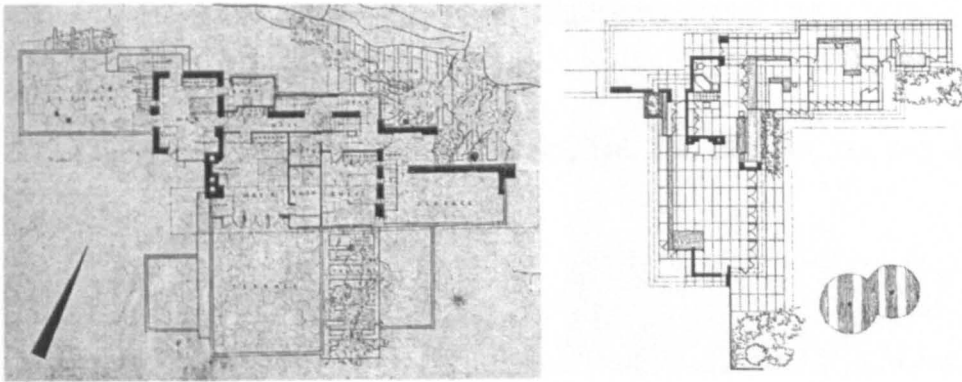


In addition, we can notice a similarity between the houses in their stepped plans, although it might not be an influence of Wright's on Aalto's. The reason that Aalto stepped the corners might be not only to get diversified spaces but also to enlarge the outer shell of the house and to deal with the difficult orientation, with south on the diagonal.<sup>17</sup> It means that the rooms

<sup>17</sup> We can find Aalto's attitude of the kind in his flat design, too. Concerning it, see 'Chapter 6.2. Alvar Aalto in Collective Housing'.

inside can get as much sunshine as they need. Particularly, the multi-stepping of the southeastern corner is important because a breakfast room would be designed there. This idea contrasts well with the concepts in Corbusier's Villa Savoye (1928-30) and Mies's Farnsworth House (1945-51) whose exterior walls simply envelop and seal up the interior space. Wright even developed it through his 'Usonian' houses in the 1930s. However, Aalto's stepped plan in the Villa Mairea became weakened and simplified during the next stages.

[Fig. 3-20] Plans of Fallingwater, 1935 (left) and Jacobs House, 1936 (right) by Wright



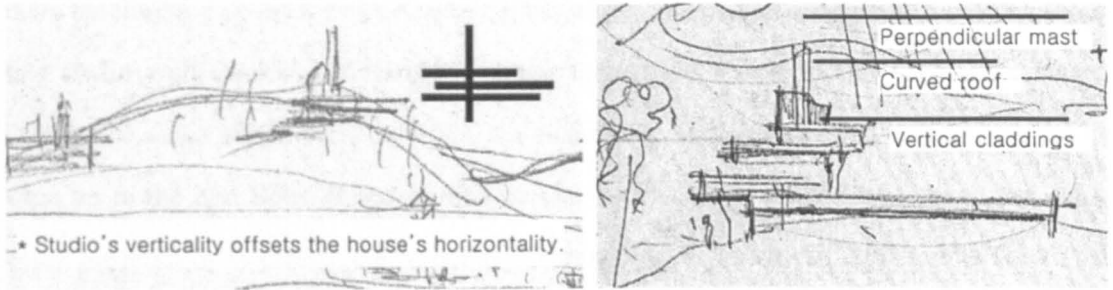
### Volumetric Point and Undulating Wall of Studio

In the initial sketches, we can see two facets of Maire's studio, which might be explained as an exterior perspective and as an interior one. So to speak, the studio is characterised by a volumetric point from outside facades and by an undulating wall in an inside landscape. The former is shown very well in the elevation of the sketch 84/164. The studio, positioned on top of several horizontal layers, pierces them vertically as the centre of gravity. But it is not certain from the sketch how seriously Aalto considered the studio's interior space, because it could be regarded just as a vertical counterpart that offsets the layers' horizontality. No matter whether intentionally or coincidentally, however, the studio has occupied the volumetric point since the start and has been dealt with more specially than other parts up to the final version.

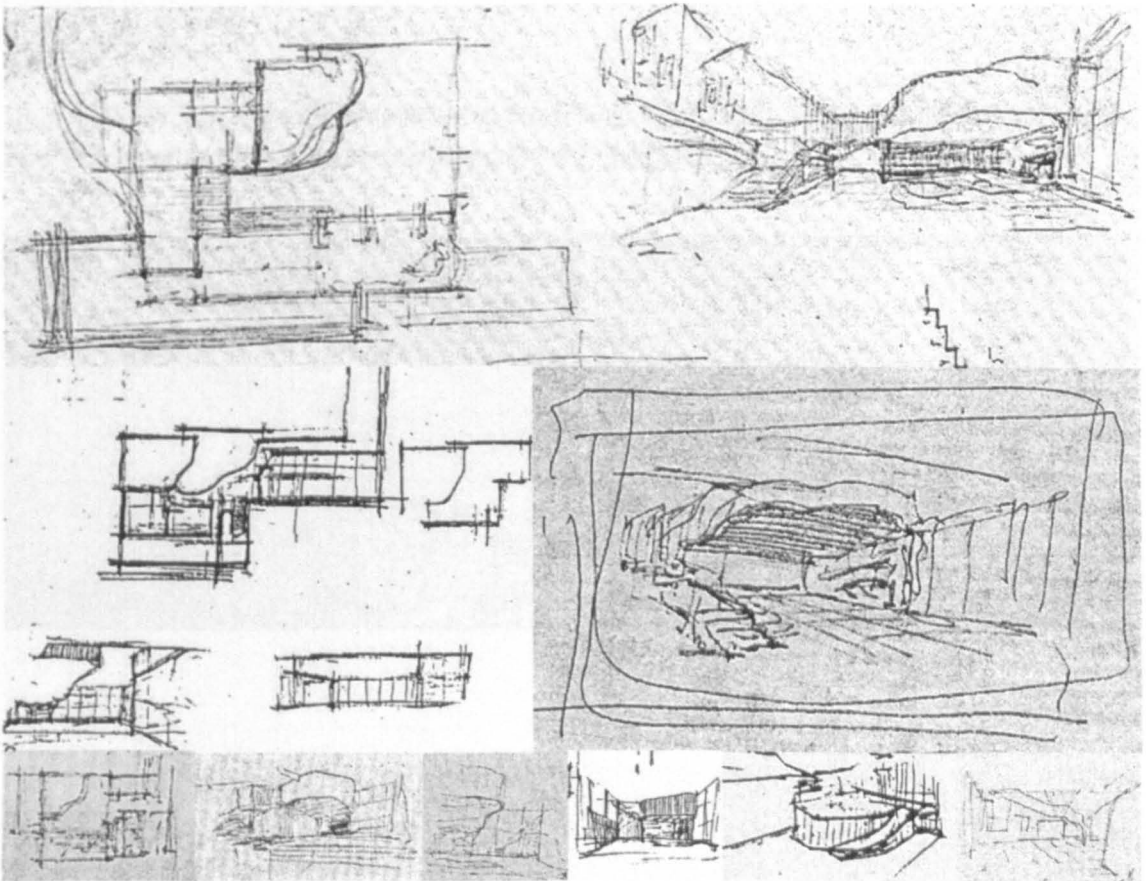


Even in the earliest sketch (84/164), the studio already has a curved roof, a perpendicular mast and vertical cladding.

[Fig. 3-21] Studio as a volumetric point <84/164>

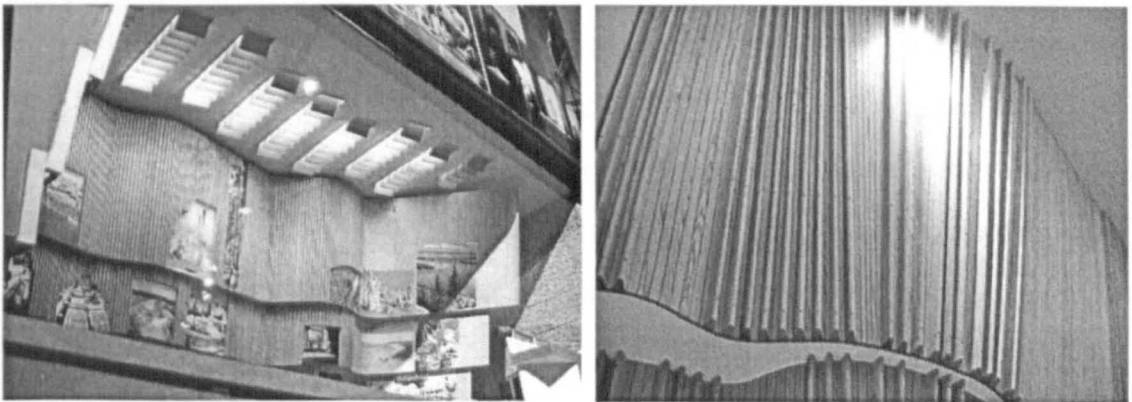


[Fig. 3-22] Studio's undulating wall study <84/245, 246, 274, 151, 249, 251, 262, 281 and 282 in order>



On the other hand, the studio's interior undulating wall has been studied more deliberately. As we can see in many sketches of this stage (Fig. 3-22), Aalto tried various types of undulating walls. And he studied it not only with plans but also with interior perspectives from different angles. According to the sketches, the studio forms a mezzanine floor alone, and we can arrive there by climbing up open stairs. Opposing the relatively simple rectangle of the living room, this studio wall creates a diversified interior landscape, which alludes to Finnish nature. During the stage of the early versions, the undulating wall disappeared because the studio went up to the first floor. However, this striking effect could not be lost forever. For Aalto could successfully re-present the undulating interior wall in the Finnish Pavilion for New York Fair in 1939, which was designed in 3 days, May 6-9, 1938, when he was revising the 'Proto-Mairea'.<sup>18</sup> Without studying the studio wall in the Villa Mairea, he could not have succeeded in the pavilion competition in such a short time. Although the pavilion was demolished, we can see it in reduced form as a wall in the Alvar Aalto Museum (1971-73).<sup>19</sup>

[Fig. 3-23] Model of Finnish Pavilion in New York Fair, 1939, Alvar Aalto Museum (left) and Wavy wall of Alvar Aalto Museum, 1971-73 (right)



<sup>18</sup> Schildt, G. (1986) *op. cit.* p. 165.


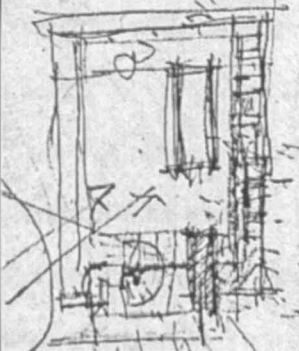
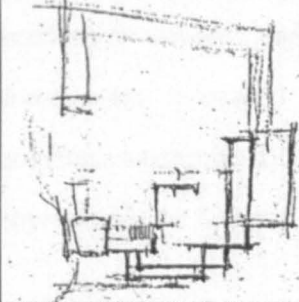
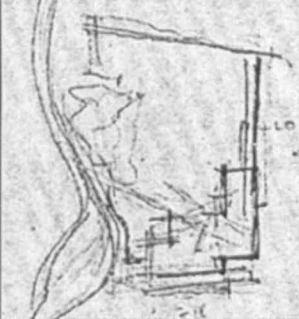
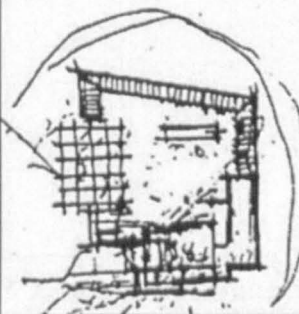
<sup>19</sup> Concerning the meaning of the undulating walls of the Villa Mairea and other examples, see 'Chapter 5.1.4. Curvilinear Elements' and [Fig. 5-22~24].

### **Diachronic Order of Plans**

As I implied above, to set all the drawings in precise chronological order is impossible because there are too many drawings in this stage and because lots of ideas in each sketch interact. Therefore, I did not try to divide this initial sketch stage into more detailed phases. Nevertheless, it will be helpful to select several drawings that show a clear time-order, and to compare them, because we can see here the developmental sequence of the Villa Mairea through free-hand sketches. I limited the drawings to plans because they were more decisive and more articulated at this stage.

Among many design elements, I consider the shape of the courtyard, the existence of a pergola, the influence of the natural context, the direction of the swimming pool, and the existence of a cloister roof, as the critical elements in defining the overall order. In [Fig. 3-24], the 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 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 contours 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 trellis canopy in the opening on the left side. 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.

[Fig. 3-24] Setting plans in diachronic order

	<p>* 84/215</p> <ul style="list-style-type: none"> <li>- Rough location of the house within detouring road</li> <li>- Exterior wall enclosing square courtyard</li> <li>- Unclear main body of the house</li> <li>- Presumable swimming pool in upper side</li> </ul>
	<p>* 84/164</p> <ul style="list-style-type: none"> <li>- Configuration of the house and the court become clear</li> <li>- L-shaped main body of the house</li> <li>- Rectangular courtyard</li> <li>- Vertically long swimming pool</li> <li>- Doubled-fireplace between the inside and the outside</li> </ul>
	<p>* 84/197</p> <ul style="list-style-type: none"> <li>- Courtyard became trapezoid</li> <li>- Exterior wall opened partly in the left side (for a pergola)</li> <li>- More stepped main body of the house</li> </ul>
	<p>* 84/251</p> <ul style="list-style-type: none"> <li>- Influence of contour and access road on plan</li> <li>- Close relation of topography to the house</li> <li>- Left-side opening has planting (with a pergola)</li> <li>- Outline of the house became more arranged</li> </ul>
	<p>* 84/268</p> <ul style="list-style-type: none"> <li>- Roof added to the exterior walls</li> <li>- Pergola gets trellis canopy</li> <li>- Horizontally long swimming pool with diving board</li> <li>- Sauna before the swimming pool</li> <li>- Freehand sketch for formal drawings of Early Version 1</li> </ul>

### **3.1.2. 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. The catalogued drawings of this stage were quite in disorder despite the small number. Nevertheless, it is not impossible to put them in a developing order, because the drawings are only a few (just 18 in all) compared with the former stage, and the order is quite logical. 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. In this stage, Aalto drew mostly floor plans, elevations and sections of each version. At one point, he used a model to gain a deeper understanding of the design evolution.<sup>20</sup> On the basis of the drawings and my analysis, I reconstructed the Villa Mairea of each version by a computer program. Since the early versions do not have enough drawings and the drawings do not match each other exactly in some cases, it needed much interpretation, especially in the details. Nonetheless, this computer modelling must be helpful in reviving the lost memories of the Villa Mairea and in appreciating the house.

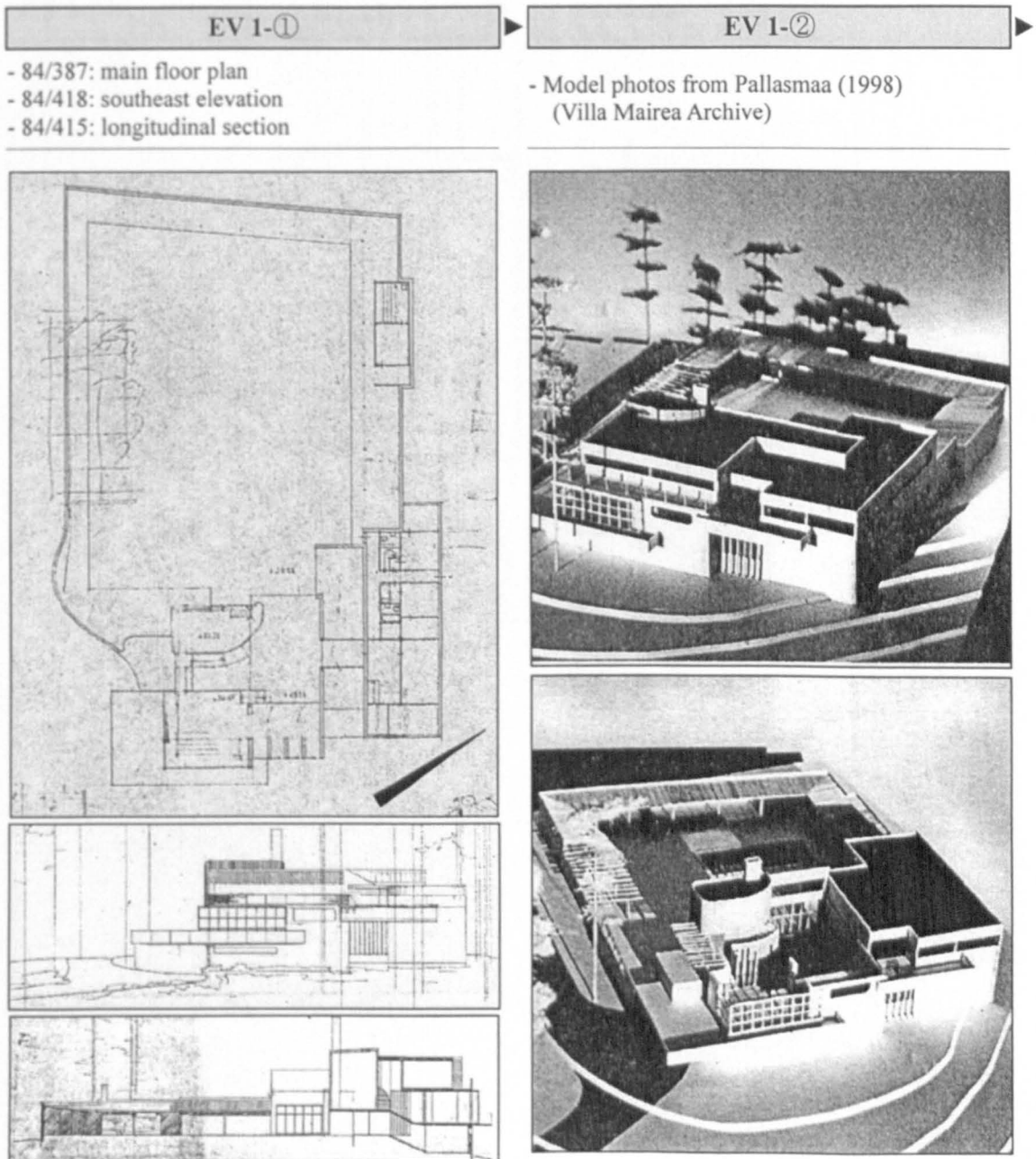
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<sup>20</sup> According to Pallasmaa, a model of the Early Version 1 remains in Villa Mairea Archive, and the photos was published in Pallasmaa, J. (1998) 'Evolution of the Design Concept'. In Pallasmaa, J. (ed.) (1998) *op. cit.* p. 38.

### (1) Early Version 1

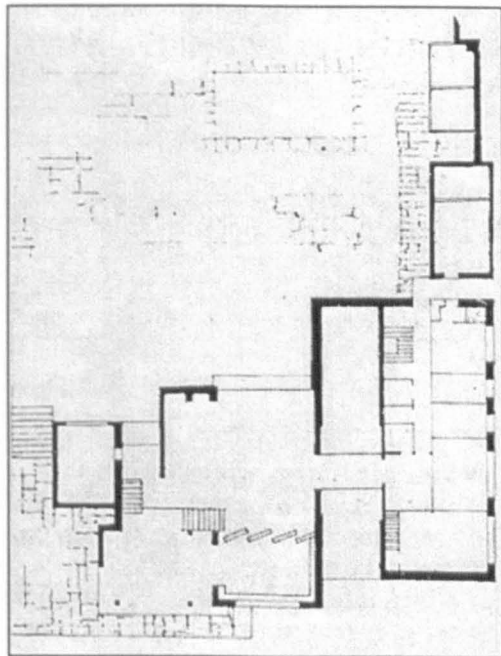
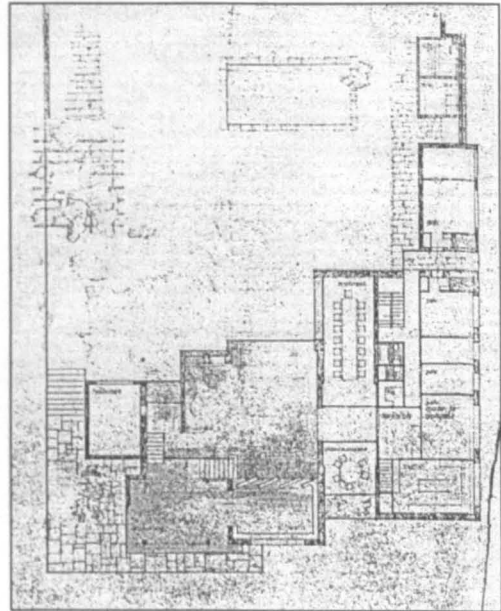
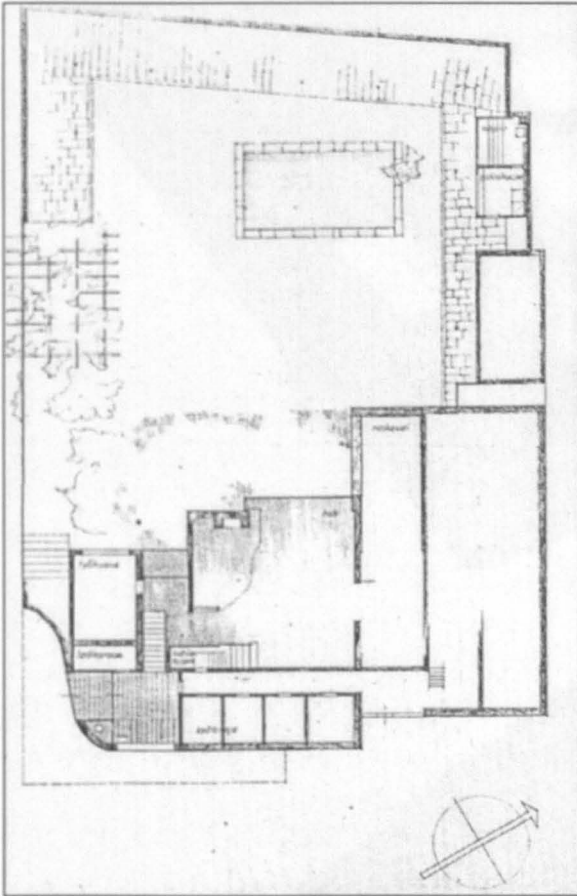
Though I group several drawings and a model into Early Version 1 as Pallasmaa did, there still remain some slight differences between them. A close analysis lets them be divided again into three steps as in [Fig. 3-25].

[Fig. 3-25] Subdivision of Early Version 1

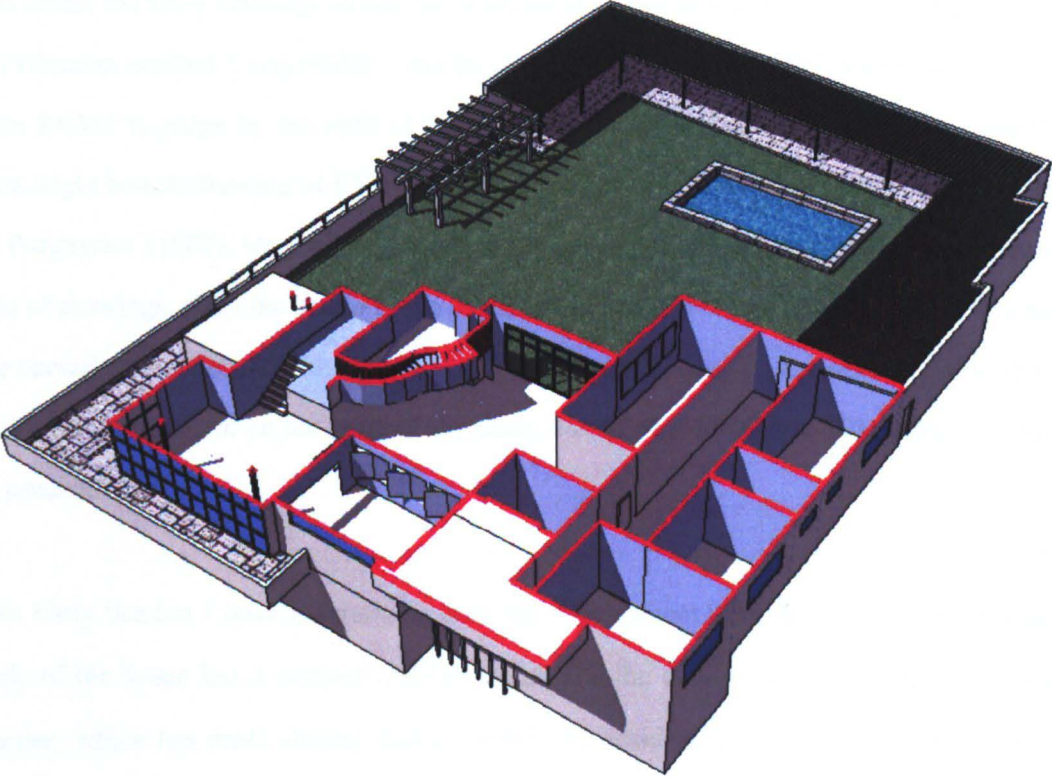
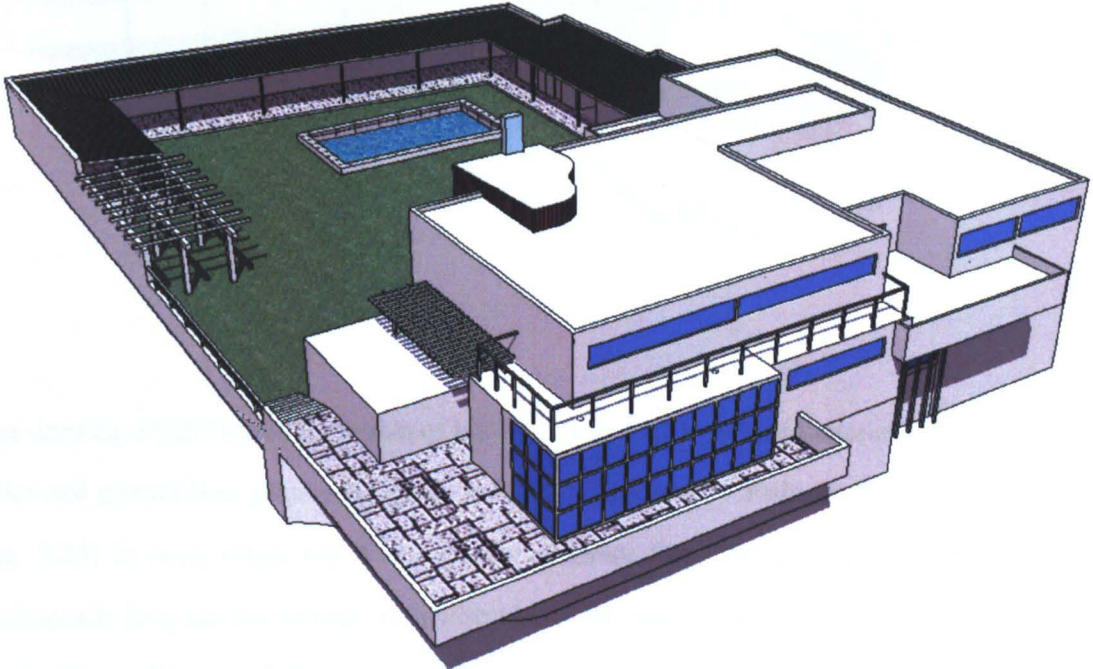


EV 1-③

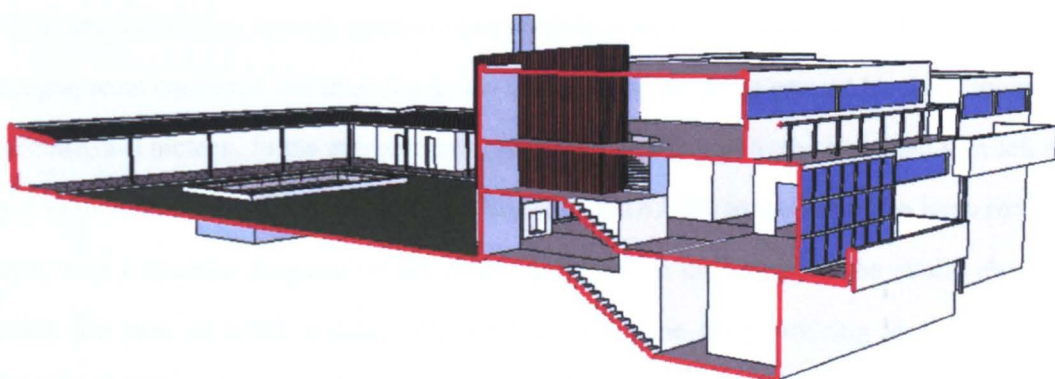
- 84/407: 'basement + main floor' plan (left)
- 84/440: main floor plan (right top)
- Slightly different version of main floor plan only found in Porphyrios (1982, p. 37) (right bottom)



[Fig. 3-26] Computer 3D model of Early Version 1: south perspective (top), horizontal section (middle) and longitudinal section (bottom)







The drawing 84/387 (main floor plan of EV 1-①, Fig. 3-25) – which Pallasmaa explained as a ‘Elevated ground floor plan’ – is similar to 84/407 (‘basement + main floor’ plan of EV 1-③, Fig. 3-25) in most ways, but it is critically different from the latter in that its studio is horizontally long and the servant wing protrudes to the outside from the exterior wall line. The studio shape of it accords better with the elevation (84/418) and the section (84/415). So we can define the three drawings as one set. And, the drawing 84/440 (main floor plan, Fig. 3-25) – Pallasmaa omitted it regretfully – can be clearly coupled with 84/407, which might be later than 84/387 to judge by the style of the drawing. Interestingly, one version of a main floor plan (right bottom drawing of EV 1-③), which is slightly different from 84/440, remains only in Porphyrios (1982). On the other hand, the model (EV 1-②) might come between the two sets of drawings, since the studio shape of the model follows well the earlier (EV 1-①) while the curved corner fits with the later (EV 1-③). However, I want to describe the Early Version 1s as one version here on the basis of the plans, 84/407 and 440 (EV 1-③), making reference to some others.

This Early Version 1 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 trapezoidal. There is a cloister, which has roofs sloping down towards the inside and a row of columns along the exterior wall. Though it is not clear, this roof could be regarded as Japanese influence (see Fig.

5-108 and 109). 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 an office (TYÖHUONE) to the left and a large reception room with a massive fireplace to the right. A serpentine line suggests the studio above our heads. We turn to climb another stair to the mezzanine floor, 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 the next level. As we can see in the plan 84/387 (main floor plan of EV 1-①, Fig. 3-25) and the model photo, the stair leading to the upper floor is curved following the studio wall. But it is frustrating that there is no accurate information about the upper rooms due to the lack of the upper floor plan.

The sitting room can be opened to a terrace, which was originally 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>21</sup> Possibly, they could be used as art exhibition walls. In the plan 84/440 (EV 1-③, Fig. 3-25), 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. 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 terrace of the mezzanine floor. This rustic stone pattern gives consistency to the exterior space, even appearing in the rim of the pool.

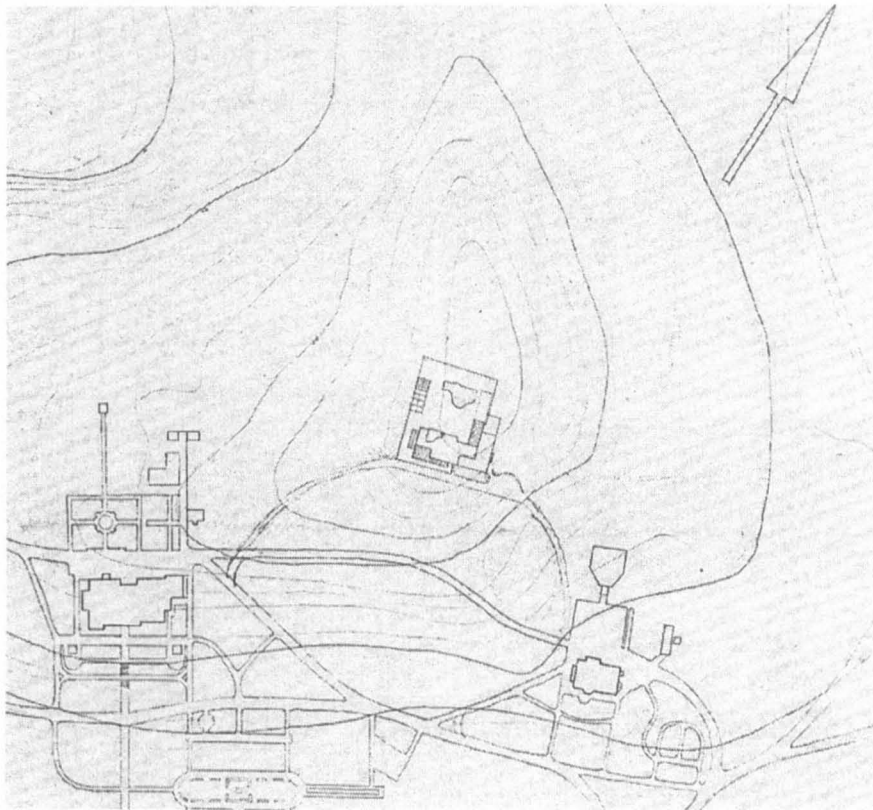
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<sup>21</sup> This accords with the interior perspective sketch 84/245 (see Fig. 3-22).

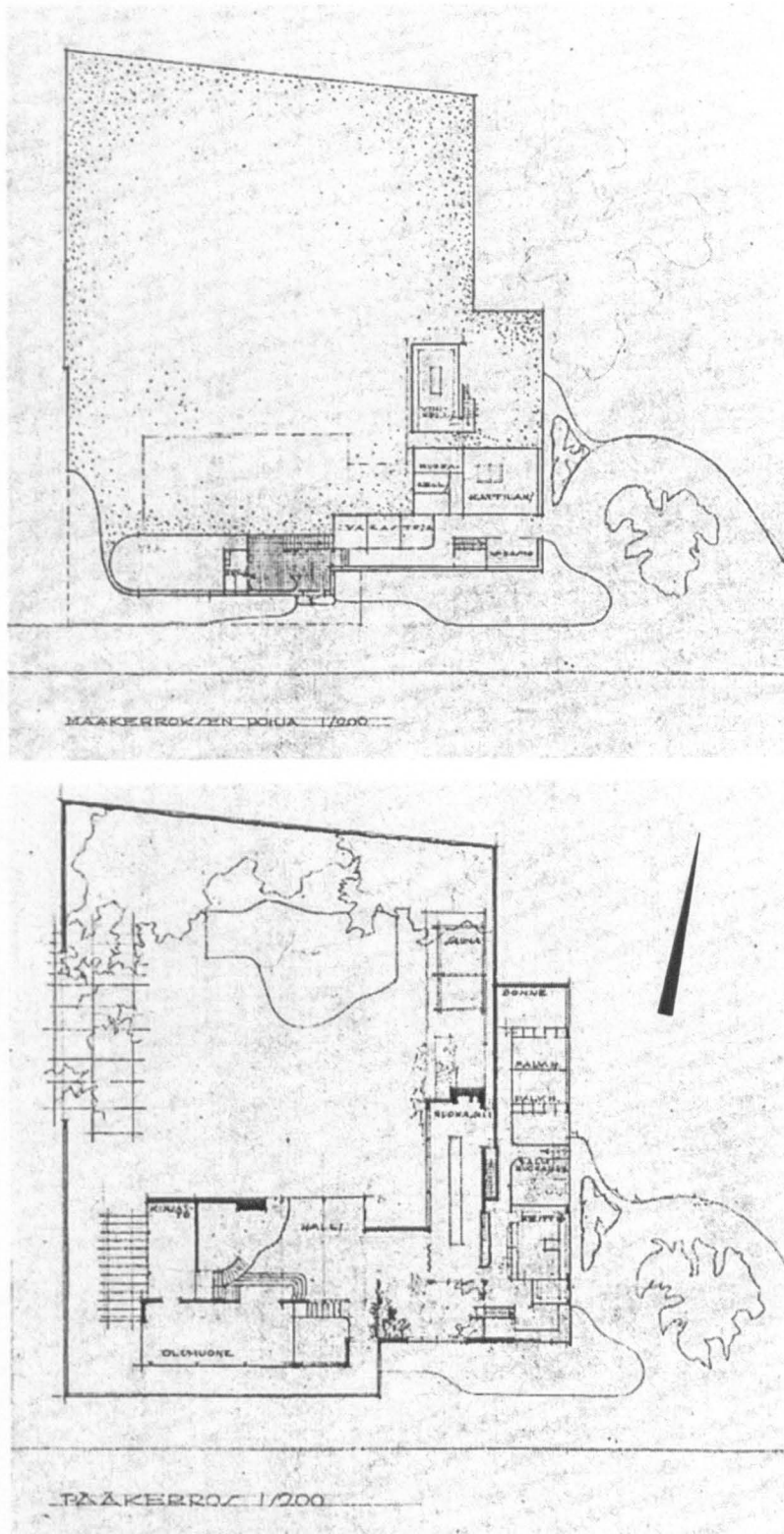
## (2) Early Version 2

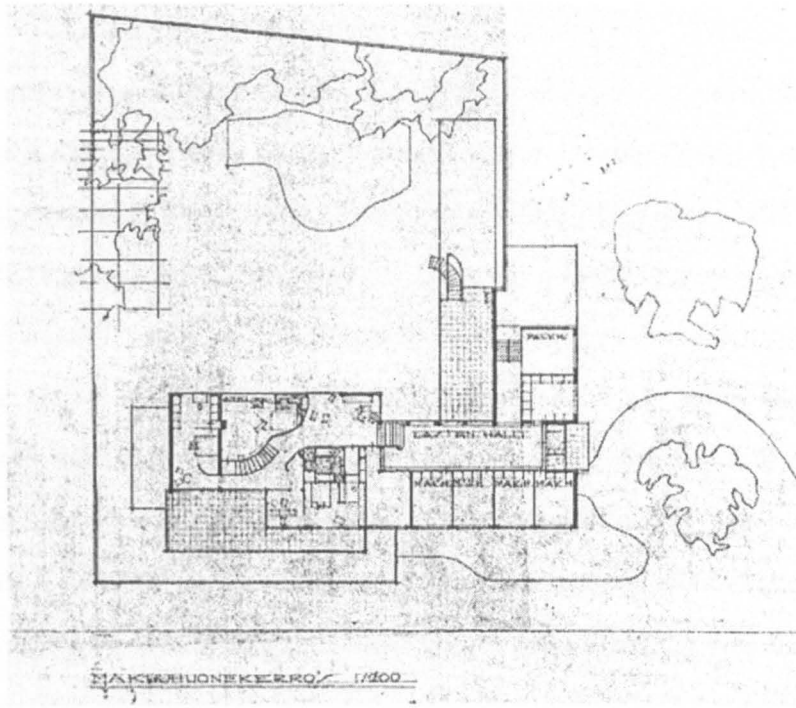
From Early Version 2 onwards, the drawings match each other well. This version developed from Early Version 1 but differs from it in many ways. Above all, the house now takes the more disciplined form of two rectangular blocks with a waist-like link, instead of the many-stepped plan. However, the change in access is the most critical thing in this version, because it caused other subsequent changes in entry and interior circulation. The access follows the road made parallel to the southeast side of the house, and accordingly the entrance position moved from the southern corner towards the right-hand side. Entry was largely divided into two: the main entrance in the middle of the front façade, and the service entrance in the servant wing. There are also two types of service entry: one is at basement level, and the other is at main floor level. A roundabout in the right corner of the house serves delivery vehicles, which easily reach the service entrance of the basement (see Fig. 3-58).

[Fig. 3-27] Site plan of Early Version 2 <84/422>

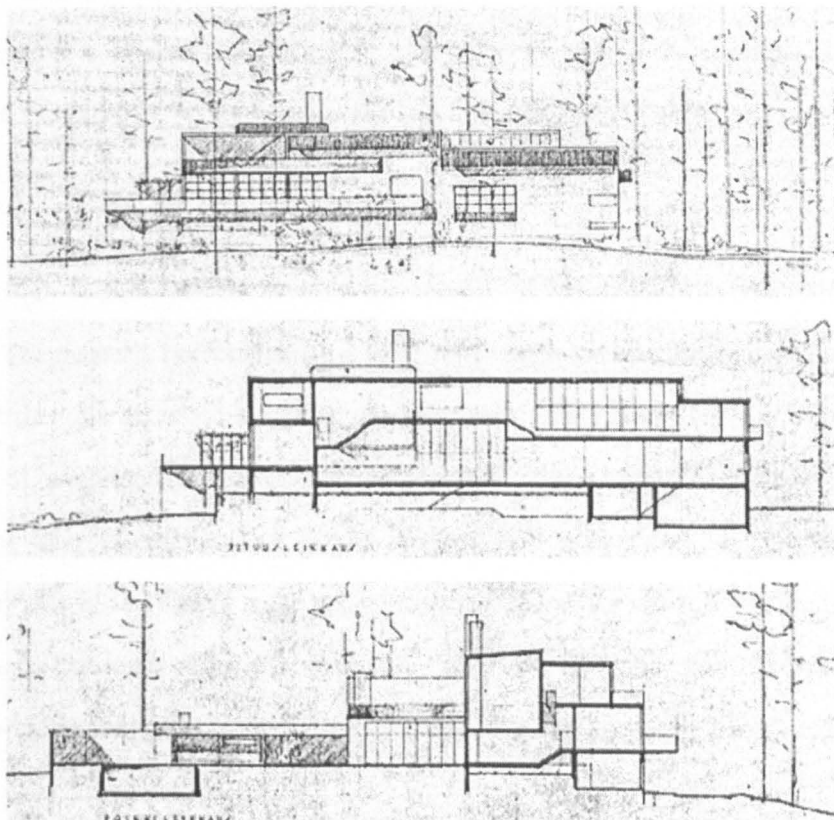


[Fig. 3-28] Basement plan <84/395>, main floor plan <84/396 > and upper floor plan <84/399> of Early Version 2





[Fig. 3-29] Southeast elevation <84/402>, cross section and longitudinal section <84/400> of Early Version 2



Because the main entrance is repositioned, the interior circulation changes. Entering the front door, we face a staircase leading to the main floor that has 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 the 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. One is the fireplace area that has a lower ceiling beneath the studio, and the other is the rest of the room with a higher ceiling under the top floor.<sup>22</sup> This promised a dynamic interior landscape with the undulating studio wall. 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 has plants around the table instead of an independent conservatory. Very interestingly, a wine cellar (VIINI-KELL) of a separated basement can be reached directly from a master's position of the dining room not from the servant area, which indicates servants' limited access to the master's treasured place.

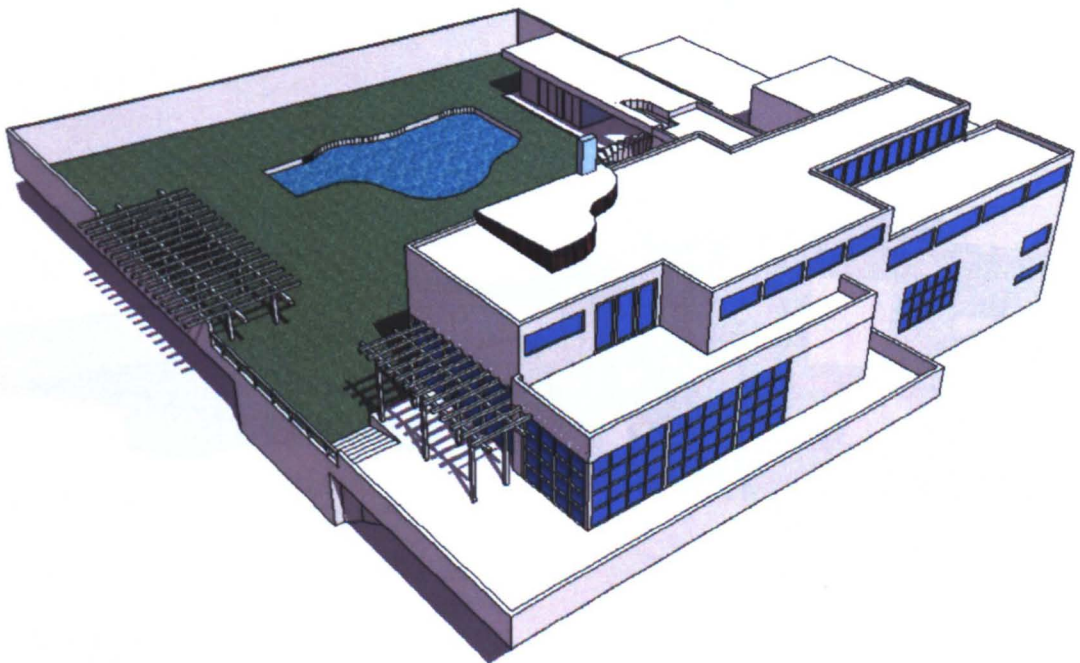
The upper floor is more private because it is mainly for the family members and has all the bedrooms. The master's bedroom and the mistress's one in the southern wing share a spacious terrace, but they are detached by the studio. To right of the parents' area is a children's area composed of a children's hall (LASTEN HALLI) and a series of four bedrooms. The horizontally long children's hall forms a transverse connection, intersecting with the longitudinal axis of the dining room and the sauna band in the main floor. The cross section 84/400 tells us that most of the courtyard side wall of the children's hall is composed of huge windows, which could offer plenty of light to the bulky hall with long length and high height.

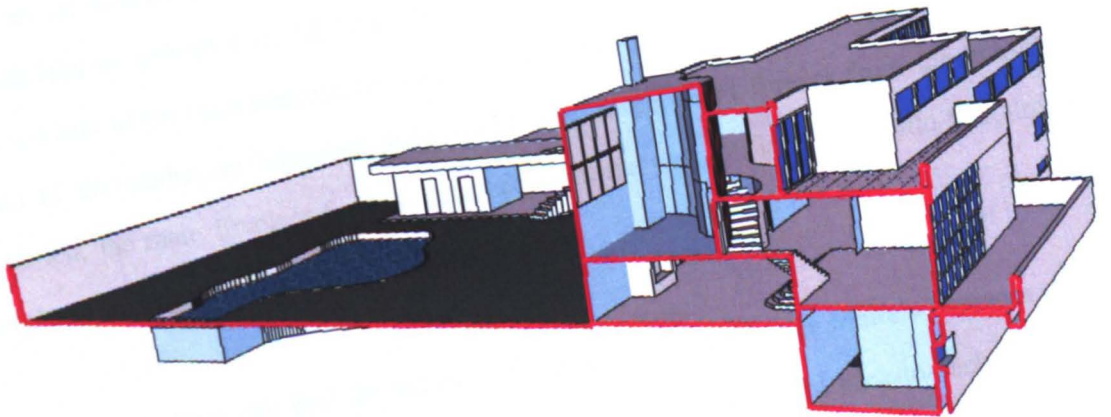
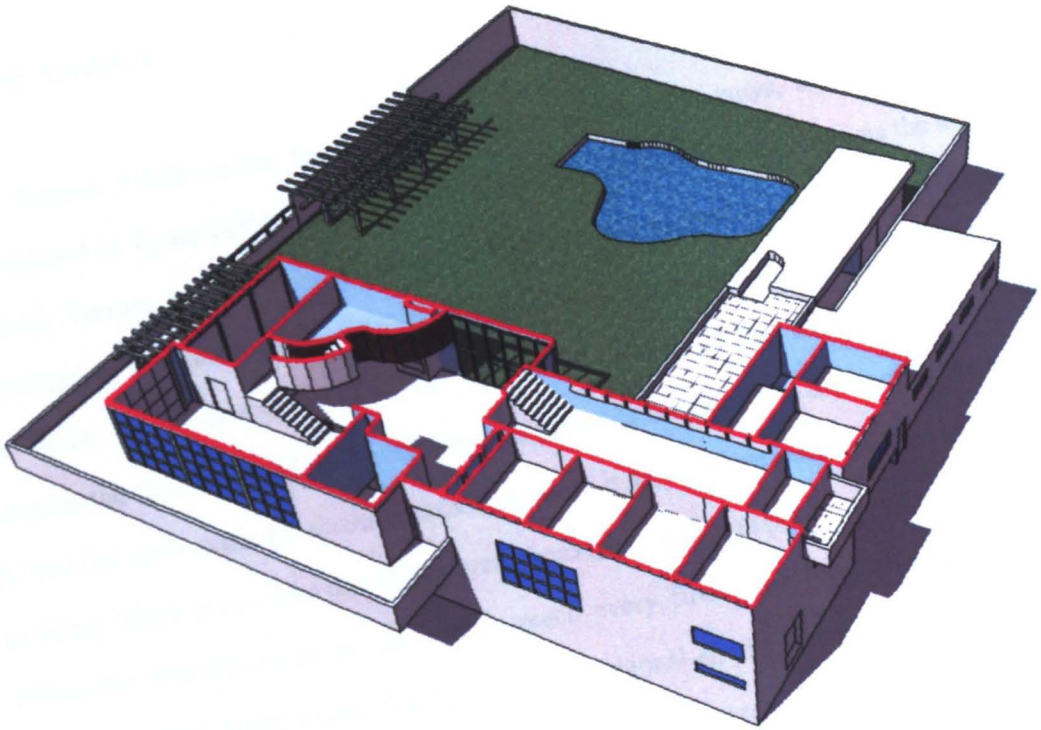
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<sup>22</sup> The Early Version 1 also has the same character, which is not shown as clearly as in this version.

Because its floor is deeply sunken with eight steps, the upper hall between the hall and the studio looks like a bridge. In the outside, the cloister is weakened, for the exterior wall loses its roof and rustic paving. However, the removal of the cloister roof opens the house more to the outer world. Another interesting thing is the change in the pool, which drops its rectangular shape in favour of a flowing curve. This marks a further step towards natural form on Aalto's part. Moreover, Aalto's natural form is found in the curved exterior stair to the dining room roof, which matches well with the main interior stair following the undulating studio wall.

**[Fig. 3-30] Computer 3D model of Early Version 2: south perspective (top), horizontal section (middle) and longitudinal section (bottom)**







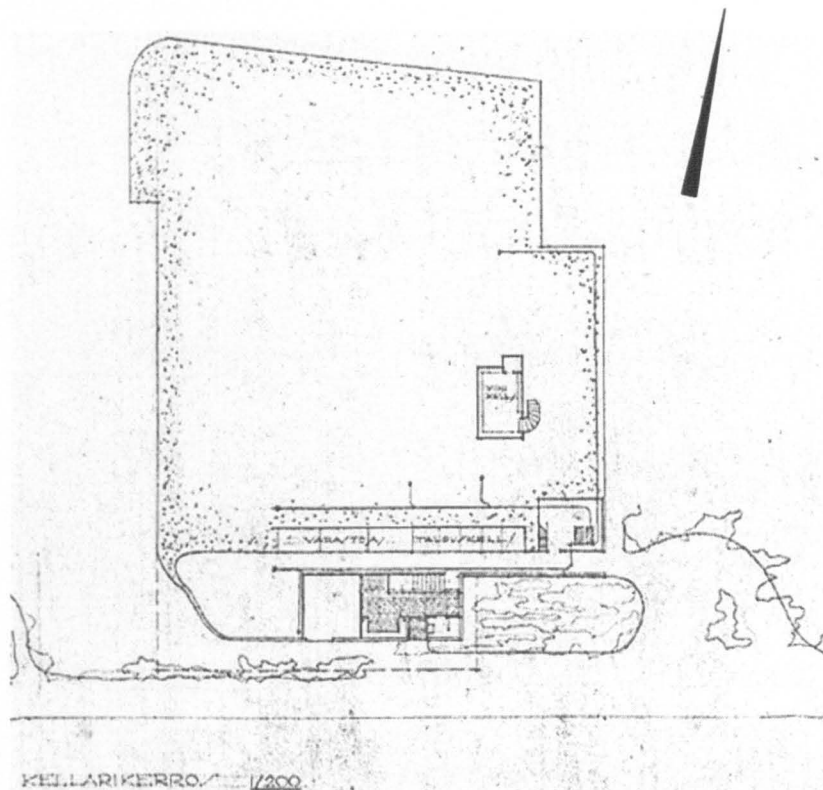
### **(3) Early Version 3**

Early Version 3 follows the former versions faithfully in most ways, but again the house transformed its figure in this version. While the change of access and entry was the key issue in Early Version 2, repositioning the studio might be the pivotal theme in Early Version 3. Significantly, the studio is raised from the mezzanine to the upper floor here. This means that the studio height is reduced, and the split-level ceiling of the main hall is lost. The complicated floor levels of the former versions 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, so 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, it is 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 addition, the main fireplace became detached from the wall, an idea that Aalto had already explored in his own house (see Fig. 4-16).

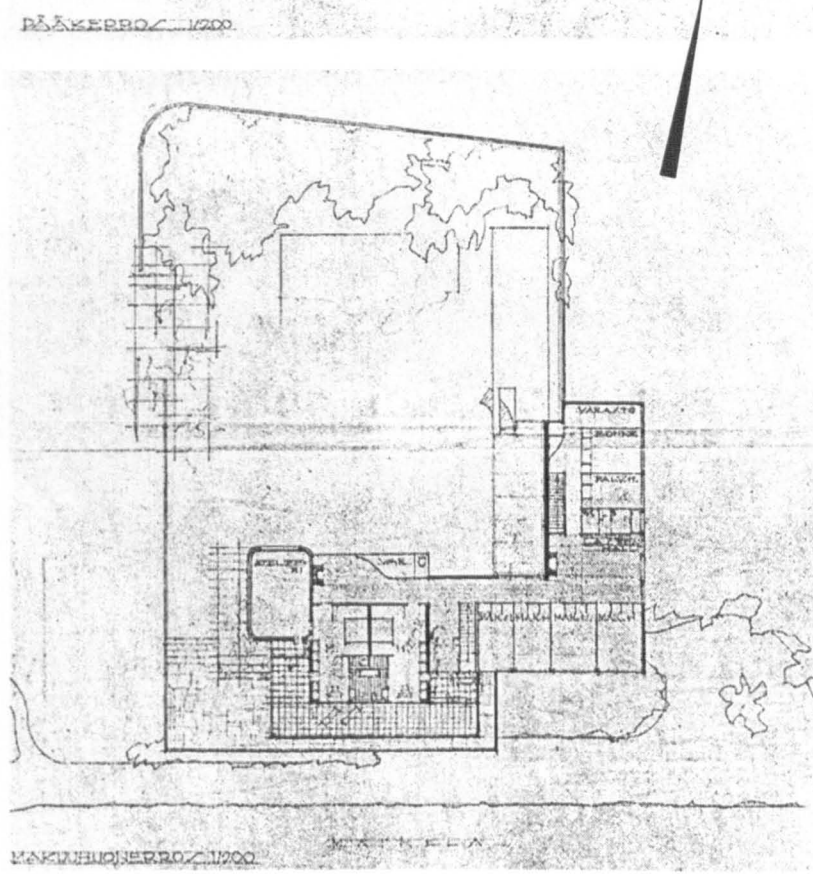
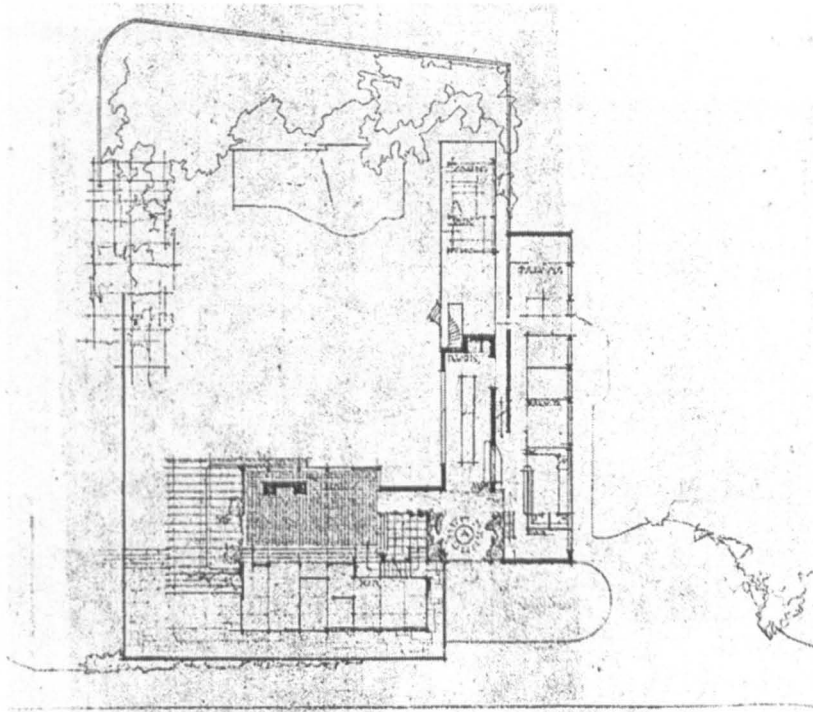
In the upper floor, we find the studio in the position of the former Maire's bedroom of the west corner. And Maire's and Harry's bedrooms are now combined back-to-back, which are exactly symmetrical and equivalent, sharing a bathroom in between. By doing this, the circulation of the upper floor became much simpler than in the Early Version 1. Particularly, Maire's area was bound firmly, and she became able to access the studio directly from her bedroom. 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. The inverse slope is unique in that it breaks the consistency of the studio roof so far,

but soon it would tilt north again. What is more, the studio revealed itself in the front façade by stepping aside to the west, rather than just staying submerged in the house body. It adds an accent in the façade, following the initial concept 'studio as a volumetric point'. In the meantime, the children's hall lost its uniqueness as the horizontal axis by moving to the northeast wing, but by having its own fireplace, it still keeps another identity of the domain. And the upper hall bridge could not survive here owing to the simplified interior level. On the other hand, there are also several changes in the courtyard. Most significantly, the containing wall opened at the pergola to introduce a stair, between which the exterior walls are out of line. The stair plays a symbolic role of linking the outside world with the family's secret garden. And the northwest corner of the wall was rounded off like the studio corners. Without fail, the swimming pool shape changed here again. In this version, it is half rectangular and half curved, which might be a dialectical result of the rigid shape of the Early Version 1 and the free form of Early Version 2.

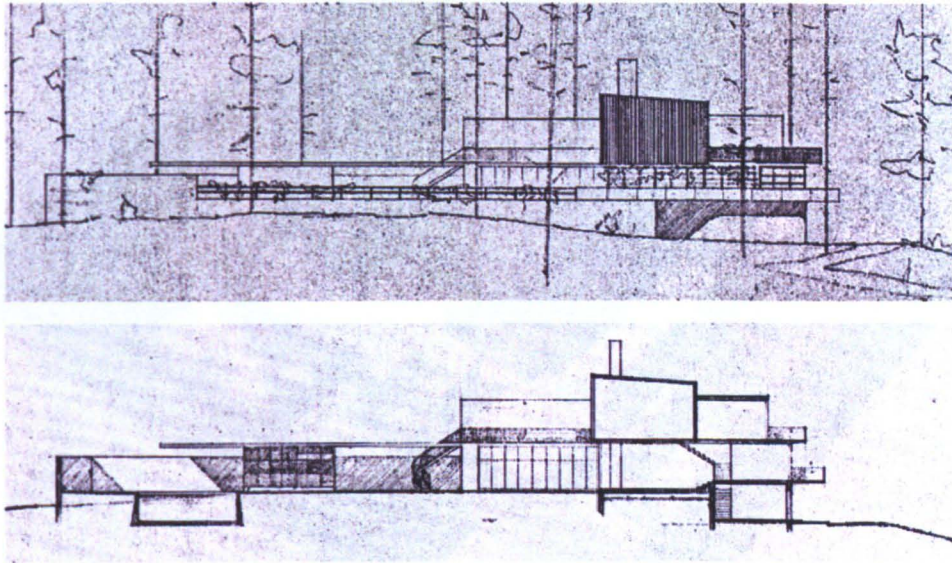
[Fig. 3-31] Basement plan of Early Version 3 <84/393>



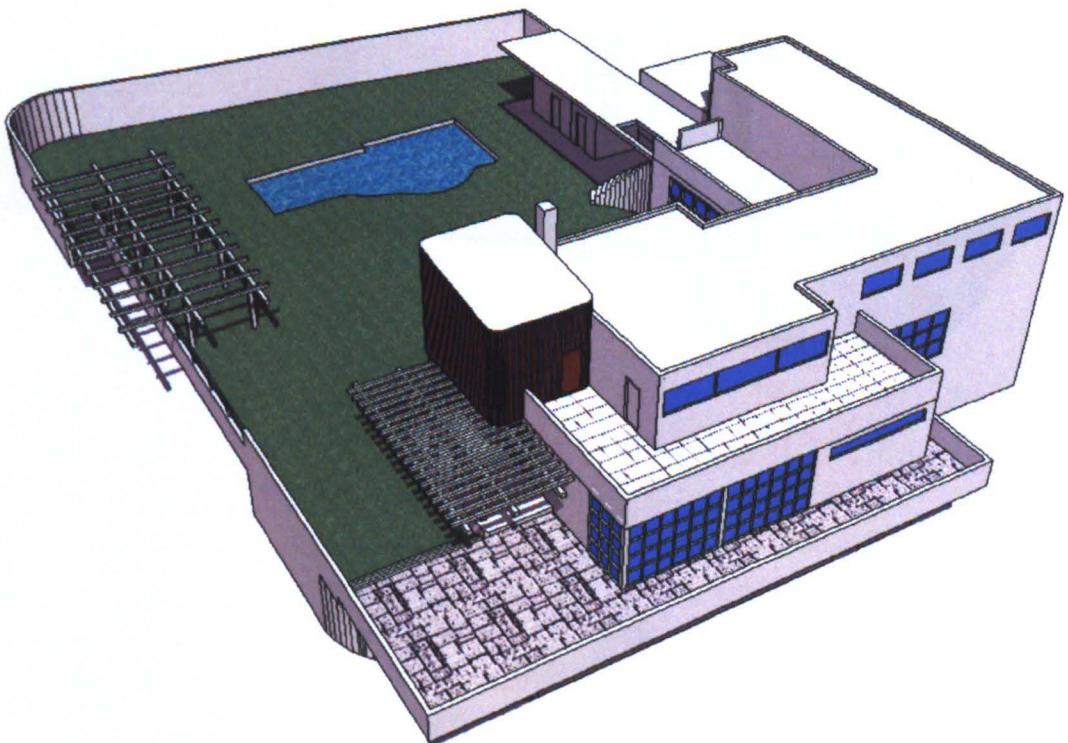
[Fig. 3-32] Main floor plan <84/393> and upper floor plan <84/394> of Early Version 3

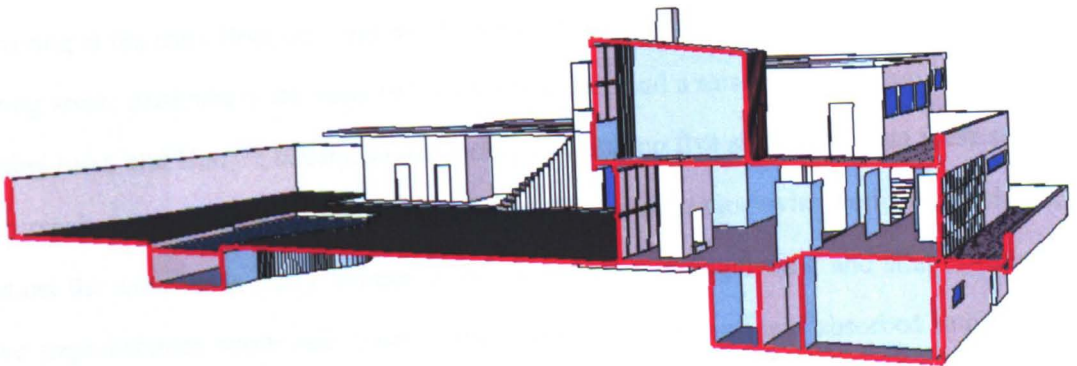
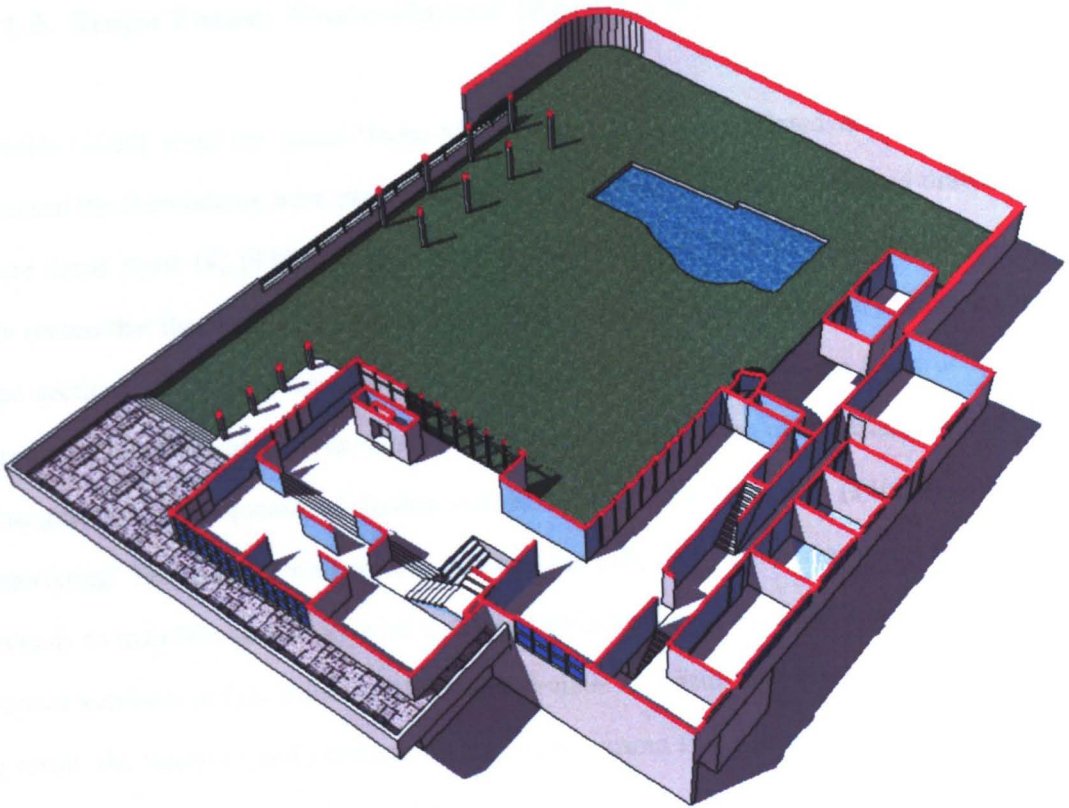


[Fig. 3-33] Southwest elevation <84/404 > and longitudinal section <84/401> of Early Version 3: Pallasmaa (1998) omitted the latter.



[Fig. 3-34] Computer 3D model of Early Version 3: south perspective (top), horizontal section (middle) and longitudinal section (bottom)





### 3.1.3. Stage Three: 'Proto-Mairea' (April 1938)

Schildt (1986) used the name 'Proto-Mairea' for the first completed design of the house because the foundations were excavated following this design. Most numbered drawings of it were dated April 14, 1938, with one exception of the upper floor plan dated April 13.<sup>23</sup> For the reason that this version itself was a completed one with all the necessary plans, elevations and sections, we can understand it better than its predecessors. On the basis of the earlier versions, the 'Proto-Mairea' developed and became elaborated to many details. Among many changes, the development of further curved walls in the basement (84/404) is the most interesting. The exterior wall follows the contour line, and the interior wall of the entrance intends to maintain continuity with it. This 'curvilinearity' is quite different from that in the former versions, in that it does not have any obvious rationality and it seems quite random. As a result, 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>24</sup>

Arriving at the main floor on climbing the stairs from the basement, we gain a view over most living areas, particularly the main hall with a fireplace and a raised sitting room. To get to the sitting room and Harry's library, we have only to climb up five steps, and from these steps we can reach the main staircase to the first floor. The counter-clockwise vertical circulation is almost the same as in 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 was located at the western corner of the living hall, and behind it is a staircase to Maire's studio in the upper floor. This stair re-enabled Maire to get to the studio directly from the main floor, which was impossible during the Early Version 3 owing to the

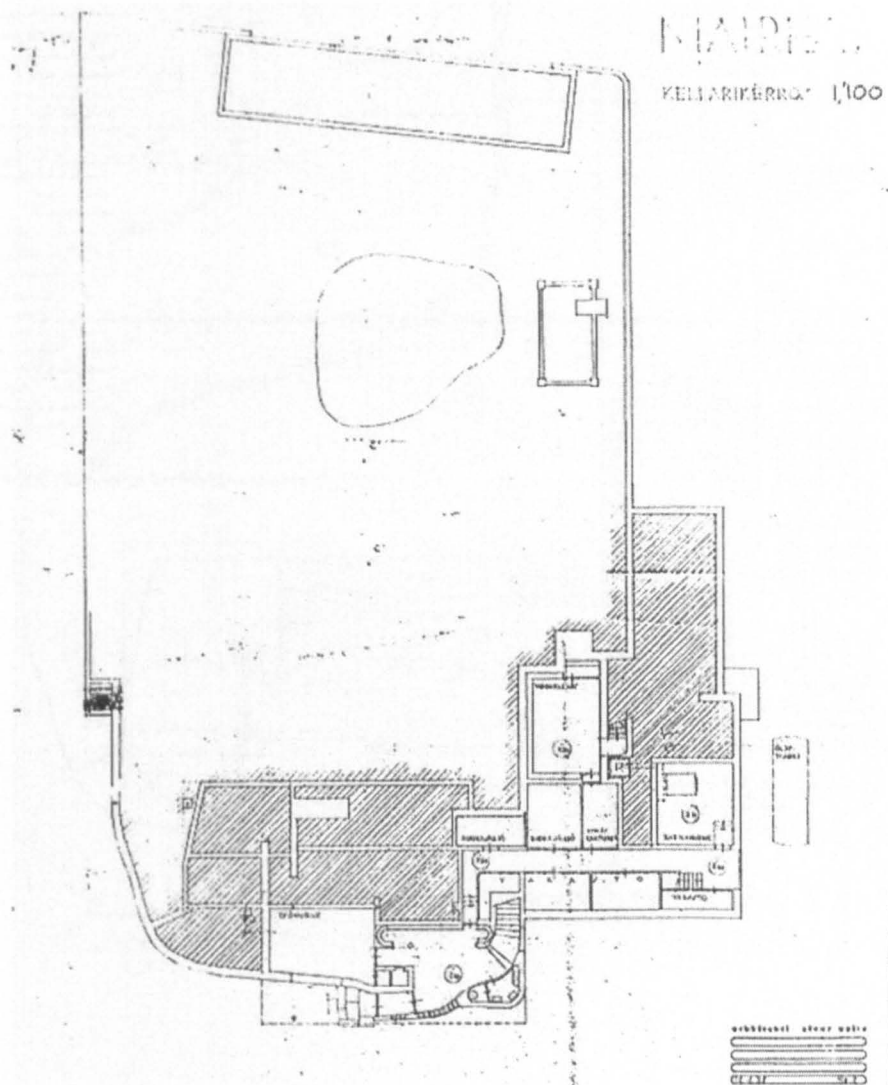
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<sup>23</sup> Tzonis, A. (ed.) (1994) *op. cit.* p. 103.

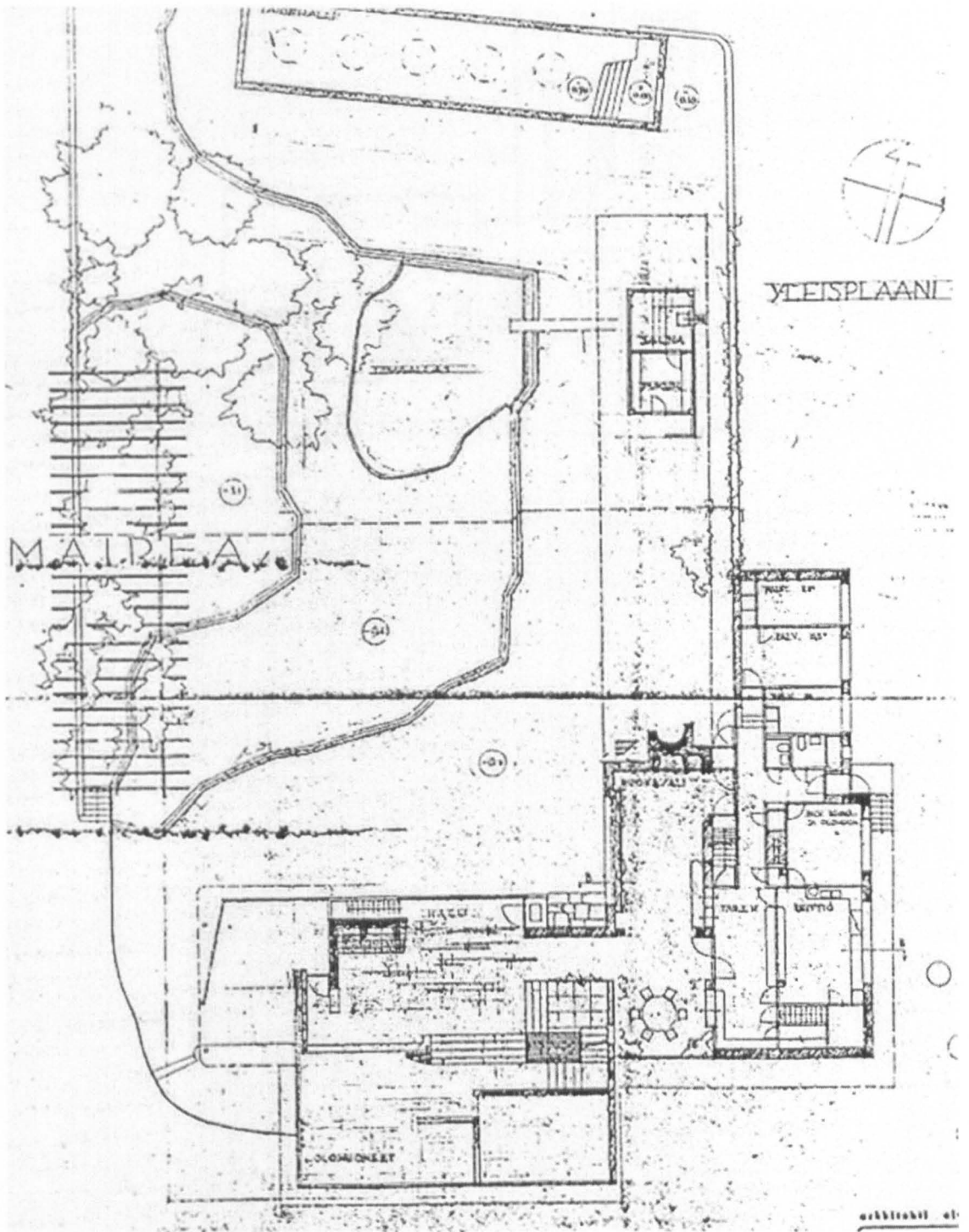
<sup>24</sup> For Hugo Häring's '*Organisches Bauen*' (organic building), see Blundell Jones, P. (1999) *Hugo Häring: The Organic versus the Geometric*, Edition Axel Menges, Stuttgart/London. We have no evidence of direct influence: it seems rather to have been a parallel development.

studio's repositioning. Although it is very narrow (no broader than service staircases) and half-hidden, its existence enhances the importance of the studio and the mistress. Besides the main circulation, the living hall has two more exits that were too ambiguous to recognise in the former version drawings. One is under the studio that leads us to the left side of the house, and the other is at the north corner of the hall that makes possible for us to access directly to the courtyard. In the servant wing, there is no special change, but its length was shortened and the width became wider by protruding the kitchen (KEITTIÖ) and the servant's dining room (PALV. RUOKA) to the outside. Meanwhile, the terrace of the main floor disappeared in this

[Fig. 3-35] Basement plan of 'Proto-Mairea' <84/404>

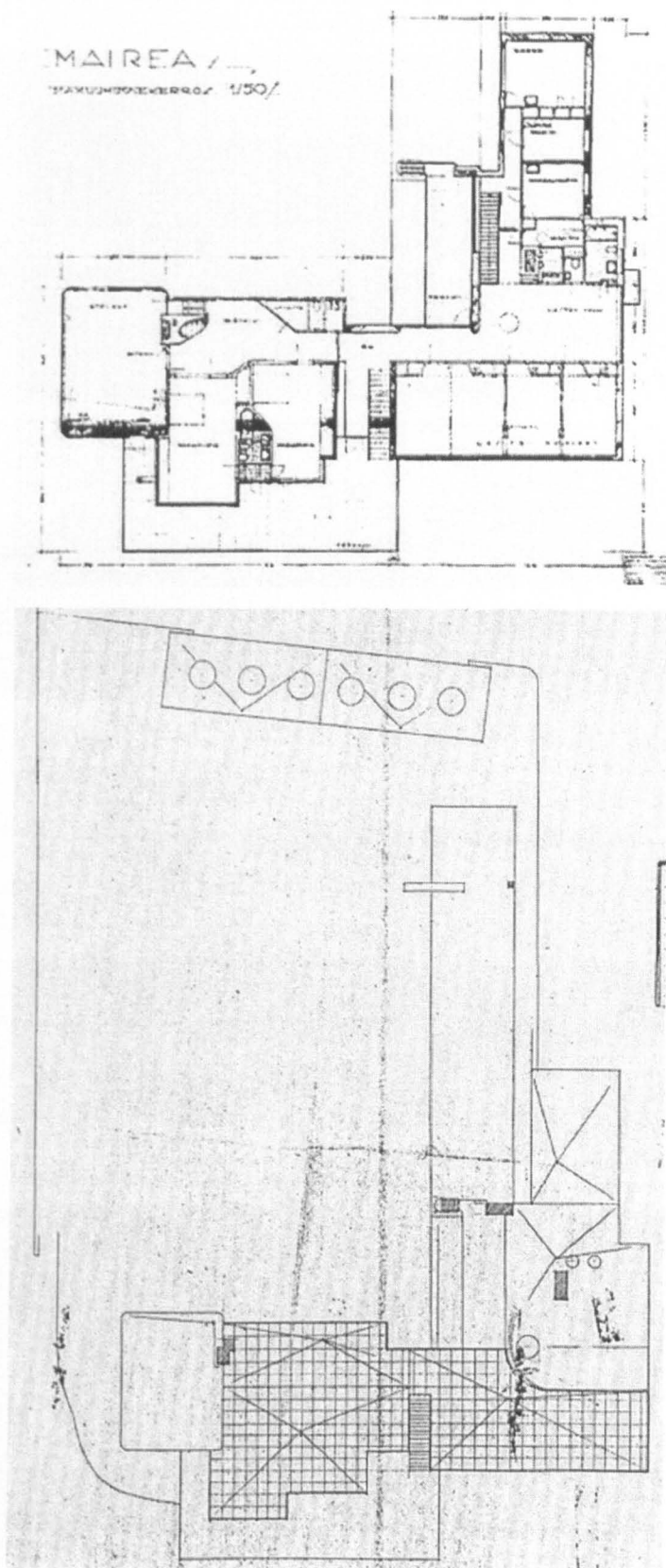


[Fig. 3-36] Main floor plan of 'Proto-Mairea' <84/411>

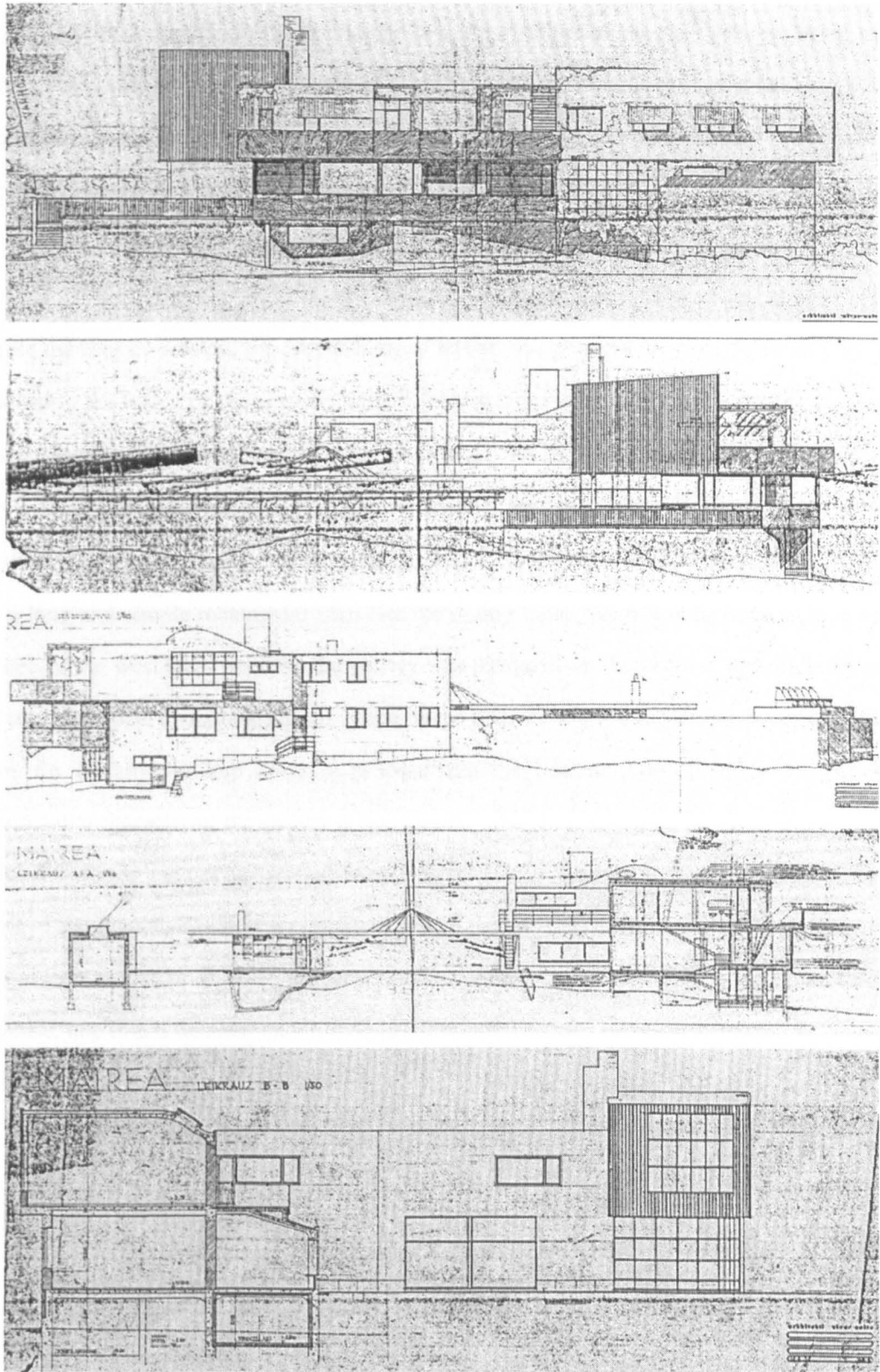




[Fig. 3-37] Upper floor and roof plans of 'Proto-Mairea' <84/413 and 421>



[Fig. 3-38] Southeast, southwest and northwest elevation <84/419, 417 and 420> and longitudinal and cross sections of 'Proto-Mairea' <84/414 and 416>



version. It means that the bold cantilever terrace concept inspired by Fallingwater was almost abandoned. On the other hand, the upper floor keeps almost the same formation as in the Early Version 3 with several sophisticated alterations. First, Maire's bedroom was projected to the south a little, which breaks its symmetry with Harry's bedroom. Second, the studio got more importance, becoming bigger than in the former version, with its own balcony inside, another entrance from the stair, and a fireplace that backs onto a large fireplace in the upper hall. Third, the children's hall lost its fireplace but gained a skylight instead.

Unlike the former version, the 'Proto-Mairea' has an independent art gallery (TAIDEHALLI) attached to the inside of the northern wall.<sup>25</sup> This is significant because it strongly tells us the house's *raison d'être* for the art collector mistress. In the living area of the Early Version 1 and 3, we have already recognised different partition systems for an art exhibition, but the intention was very weak compared with the separated gallery in this version. The art gallery has a long and simple rectangular plan like the dining table. We can enter it through the door located in the west side. Because the gallery was designed on the original ground level while the courtyard was raised around the place, there became a 0.8m difference in level between them. So we have to step down to proceed into the interior (84/411 and 414). The most conspicuous character of the gallery is undoubtedly the six skylights with 'projecting crowns', which screen the interior (artworks) from a direct ray of the sun. It is reminiscent of the top lights of the Finnish Pavilion for the Paris World Fair in 1937 (Fig. 3-42). Aalto's concern for natural light is also revealed in the section of the children's hall (84/416) in the upper floor. In this case, one round window on a tilted part of the roof orients towards the west.

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

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<sup>25</sup> In the Yale University lecture (1939), however, Aalto undervalued the role of a separated art gallery in a private house: 'I have been in quite a few of these homes and can honestly state that there was no relationship between art and daily life – although the gallery was frequently used for scotch and soda.' Aalto, A. (1939a) 'The Home of a Rich Collector', Yale University Lecture, May 9, 1939. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki. Concerning the discussion about it, see 'Chapter 5.2.2. Space to Combine Art with Life'.

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 to the courtyard following the terrain.<sup>26</sup> 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. Its irregular shape expands furthermore from the plan to the longitudinal section (84/414). In earlier versions, the pool had right-angled corners in plan and rectangular faces in section, but now both disappeared in favour of a treatment more like a natural pond. There is also another reason for the curved section of the pool from a technical viewpoint. That is, the shape can prevent the concrete shell of the pool from cracking, by making it like a boat floating on the subsoil.<sup>27</sup> The final version's pool sections (84/454) (see Fig. 3-54) illustrate its negative contour more vividly.

There are many significant changes in the exterior, too. First, 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. Second, the suspended terrace roof with eight cords is salient. Pallasmaa (1998) related the steel cords to guitar strings in a Cubist collage. This is 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. Lastly, an outside fireplace appeared behind the dining room wall,

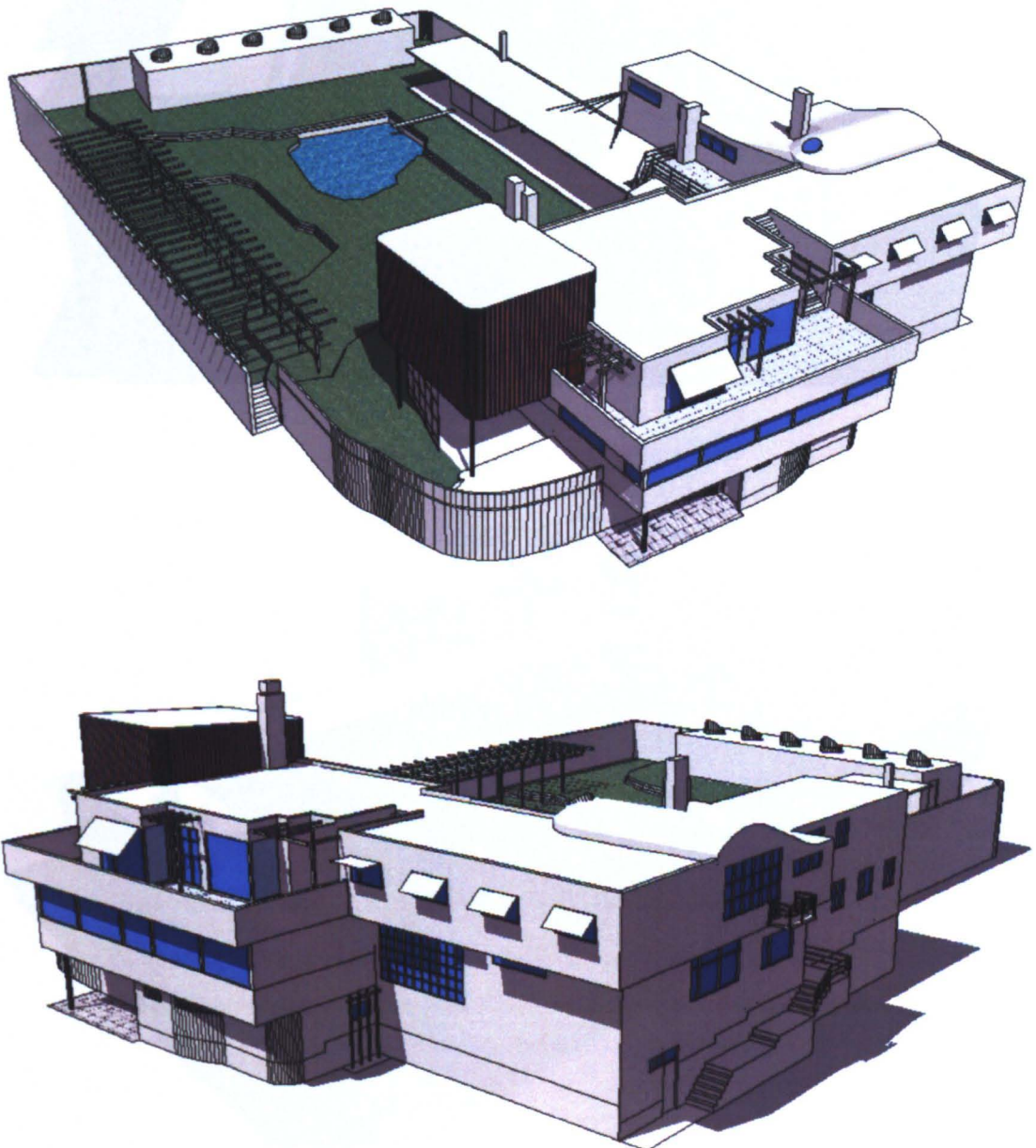
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<sup>26</sup> Of course, it also needs an artificial work in an elaborate way.

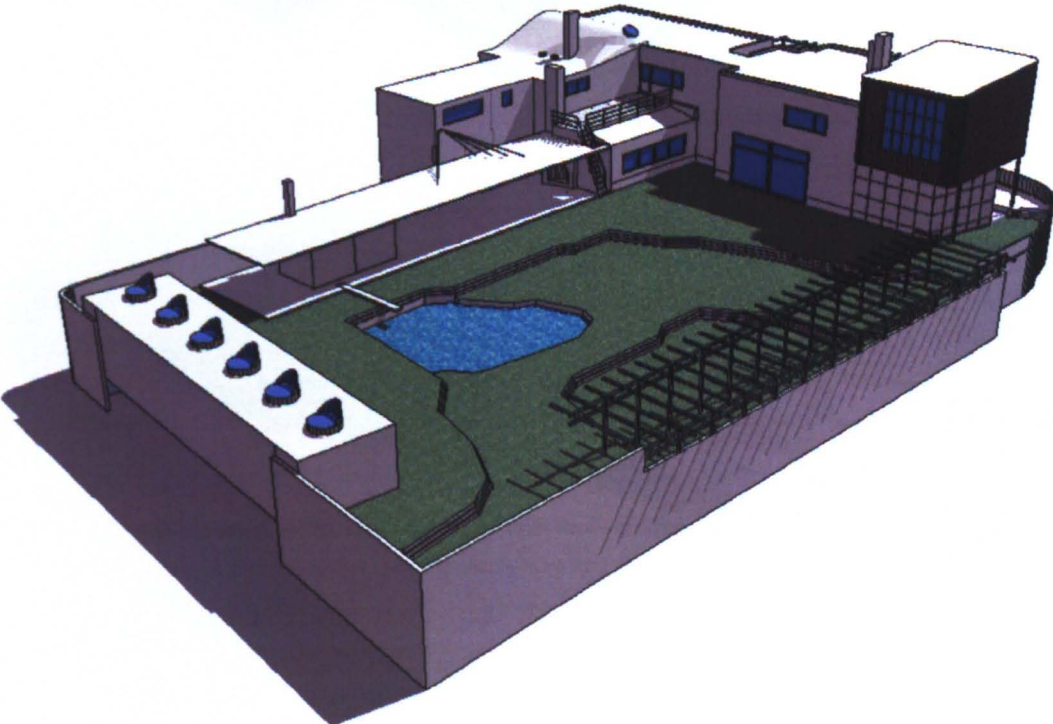
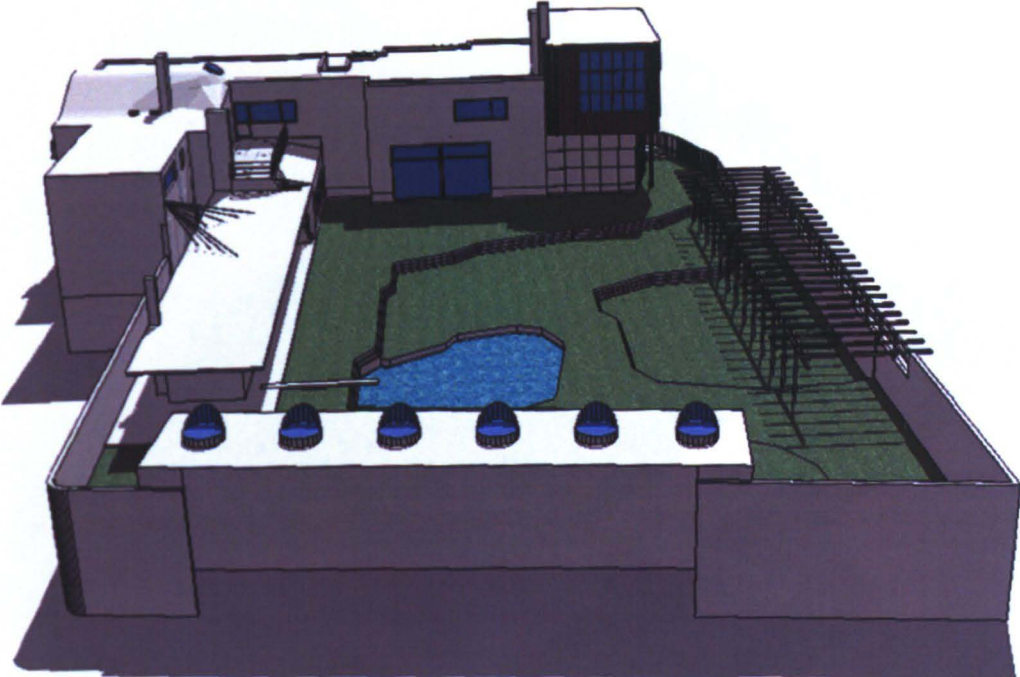
<sup>27</sup> Anon (1940) 'Mairea, House in Norrmark', *Architectural Forum*, June 1940, pp. 401-403, and Fleig, K. (ed.) (1963) *Alvar Aalto: Band I 1922-1962*, Verlag für Architektur Artemis, Zürich, p. 108.

which is pretty similar to that of Asplund's summer house (see Fig. 4-25). Because it backs onto the inside fireplace, it can be compared with the upper floor fireplace as well as regarded as a revival of the double fireplace idea from the initial sketches (see Fig. 3-13).

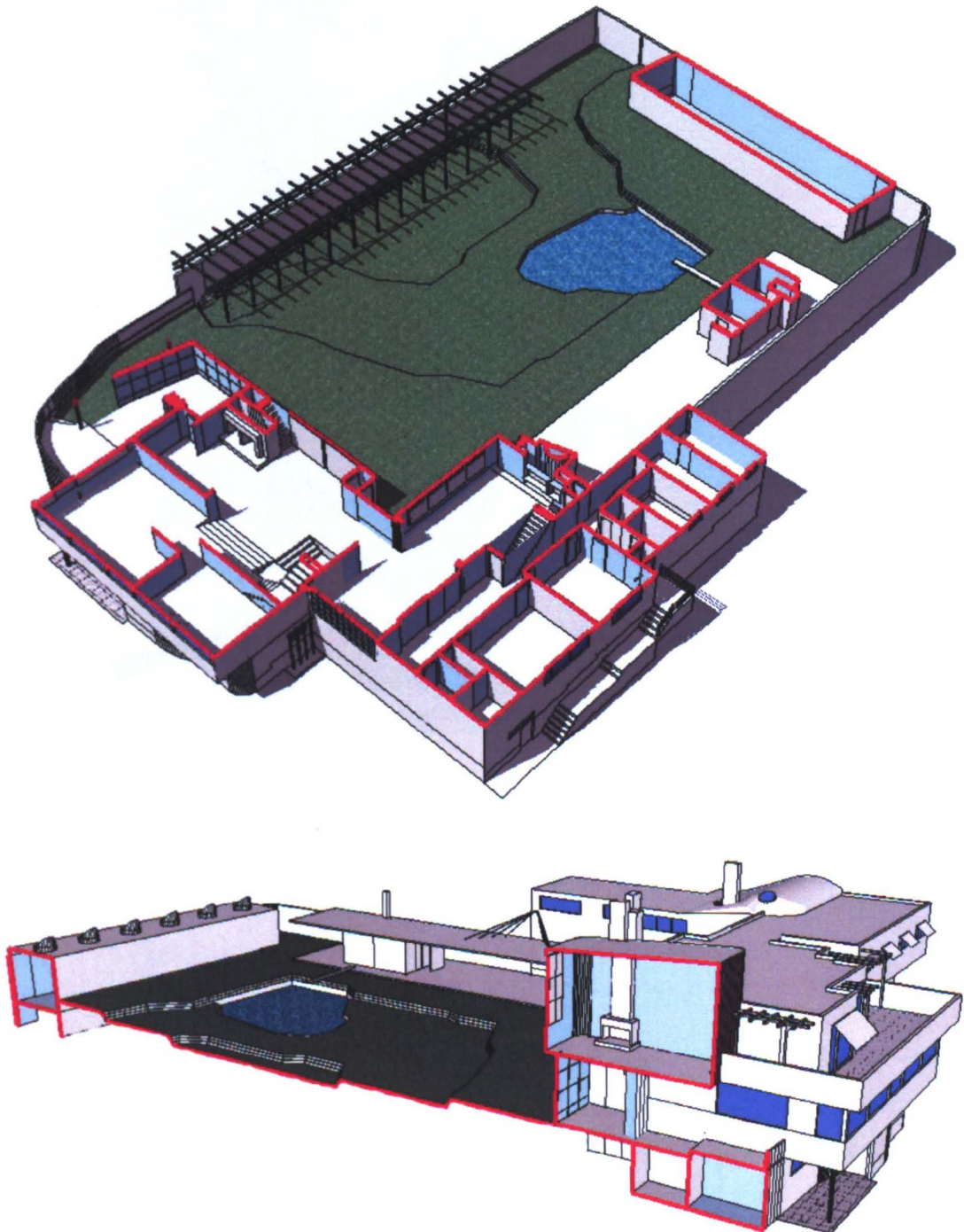
**[Fig. 3-39] Computer 3D model of 'Proto-Mairea': south perspective (top) and east perspective (bottom)**



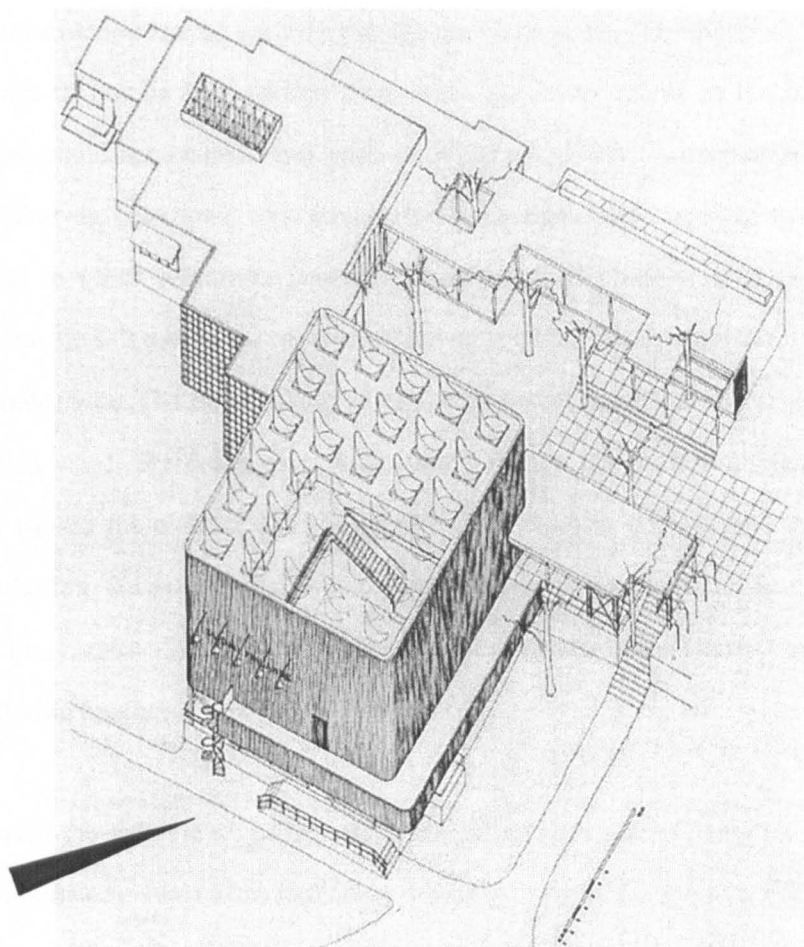
[Fig. 3-40] Computer 3D model of 'Proto-Mairea': north perspective (top) and west perspective (bottom)



[Fig. 3-41] Computer 3D model of 'Proto-Mairea': horizontal section (top) and longitudinal section (bottom)



[Fig. 3-42] Finnish Pavilion for Paris World Fair, 1937: axonometric view





### 3.1.4. Stage Four: Final Version (May 1938 to January 1, 1939)

Although construction started according to the drawings of the 'Proto-Mairea', Aalto was not satisfied with it. For he thought that there were too many rooms in the house<sup>28</sup> and that everyday life could not be combined with art if the art gallery was separated. Therefore, he decided to alter the plan again with unquenchable passion. This stage had two basic changes that resulted in other alterations consequently. One is to make a large living room with exhibition function. It means the removal of the separate art gallery and the transformation of the living room area. The other is to give up the basement entry that had continued since the Initial Sketch stage. By doing this, Aalto could escape the most important 'Fallingwater impact'. It caused the exterior and the interior circulation to change, and lowered all floor levels. In addition, the exterior wall was removed and most 'Proto-Mairea inventions', such as the curved basement walls, the vaulted roof, and the suspension steel cords were eliminated in the final altering process.

Aalto removed the separate art gallery and transformed the southern wing into one big square room (approximately 14mx14m) that has a winter garden in the western corner and a 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>29</sup> so that life could be more interrelated with art. He thought the movable partitions could serve 'as cabinets for the artworks', which could make it easy to change the displayed artworks. Writing about this change in the 'Mairea' description (1939), Aalto admitted:

The idea of a separate art gallery was abandoned and a large, continuous room with partitions that can be grouped freely was designed to form a single architectural entity, in which painting and everyday life can evolve in a more direct manner. The movable partitions also serve as cabinets for the artworks,

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<sup>28</sup> Schildt, G. (1986) *op. cit.* p. 157.

<sup>29</sup> As mentioned, this art exhibition function of the living room could already be read during the former versions.

making it easy to change the paintings on the walls and to display only a few of them at a time if so desired.<sup>30</sup>

This concept of the 'art library' can also be read in his Yale University lecture on May 9, 1939, in exactly the same way.<sup>31</sup> I will deal with the concept in detail in 'Chapter 5.2.2. Space to Combine Art with Life'.

In altering the living area, Aalto directly adjusted it to a grid plan. Early free hand sketches of this final stage show a 9×10 or an 8×8 module system (84/150), and each one locates the hearth on the longitudinal axis. They are quite Miesian. In a sketch drawn with a ruler (84/408), we can see the module system more clearly, but with a subtle difference. The fact that the hearth is on the centre line is the same, but the module is more detailed 12×11.5 (4•4•4×4•4•3.5). However, Aalto broke the grid system more elaborately in the executed plan with different column-to-column spans and an asymmetrical fireplace position, although it occurred within a perfect square here. Summing up, the plan started on the basis of the grid system but got varied little by little. Since the design changes occurred during construction, the final plan had to be settled as soon as possible, and the grid system must have been to a degree helpful as a guideline in this situation. But he did not forget going further to distort it with delicacy. Considering Aalto's attitude towards modular systems in his later career, the variation of the module is a matter of course. He ridiculed modular systems and even argued that his module was 'one millimetre or less' in the Rautatalo Office Building (1951-57) in Helsinki.<sup>32</sup>

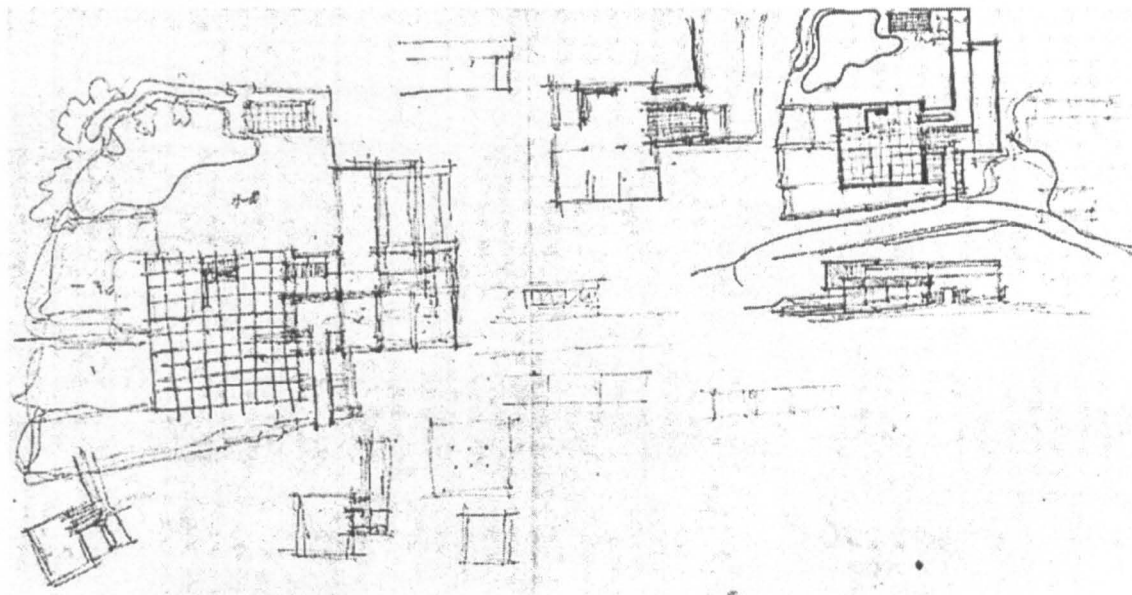
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<sup>30</sup> Aalto, A. (1939b) 'Mairea', *Arkkitehti*, no. 9. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki. For the whole text, see 'Chapter 2.4. Aalto's Own Description of Villa Mairea'.

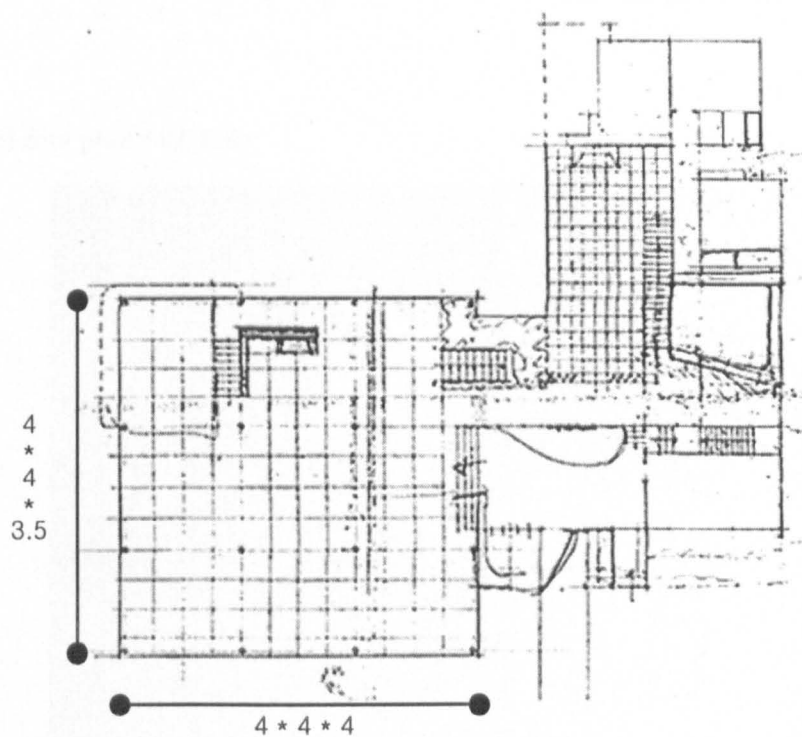
<sup>31</sup> Aalto, A. (1939a) 'The Home of a Rich Collector', Yale University Lecture, May 9, 1939. Republished in Schildt, G. (ed.) (1997) *op. cit.*

<sup>32</sup> Wickberg, N. E. (1979) 'Finnish Architecture in the Early 1900's and Alvar Aalto'. In Mikkola, K. (ed.) (1981) *Alvar Aalto vs. The Modern Movement*, International Alvar Aalto Symposium, Jyväskylä, pp. 44-65.

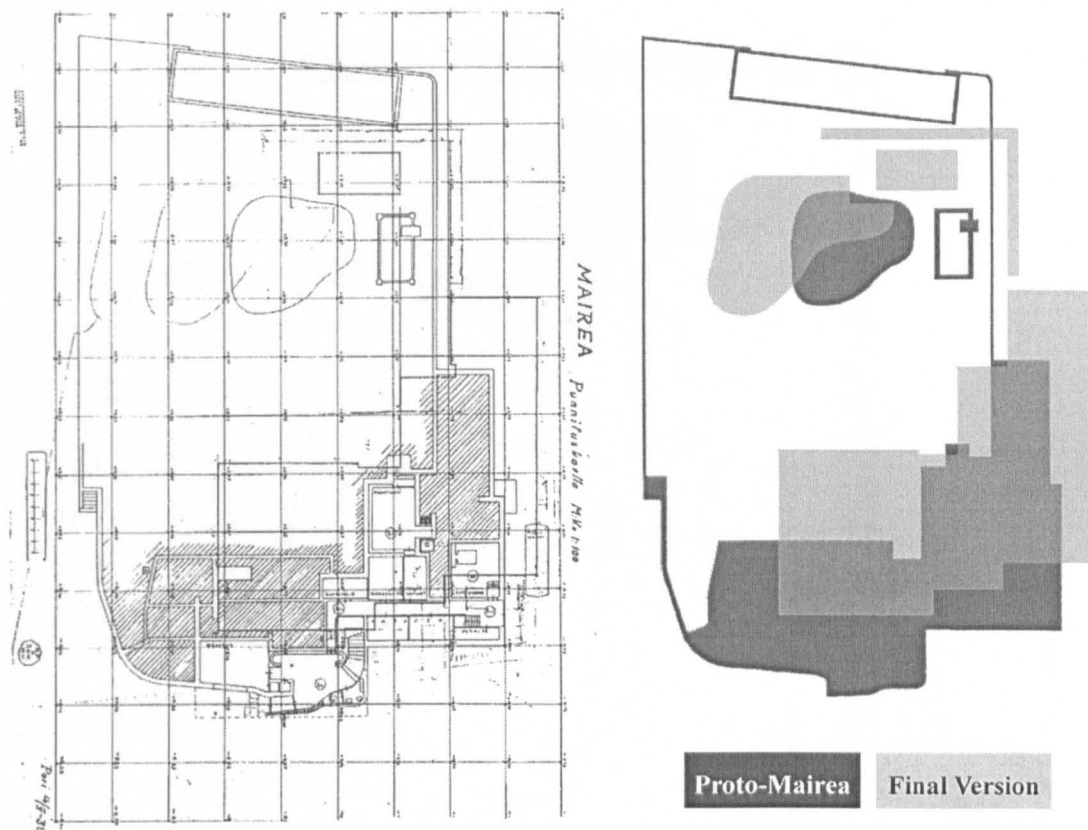
[Fig. 3-43] Sketches for final alteration: main floor, site plan and south facade <84/150>



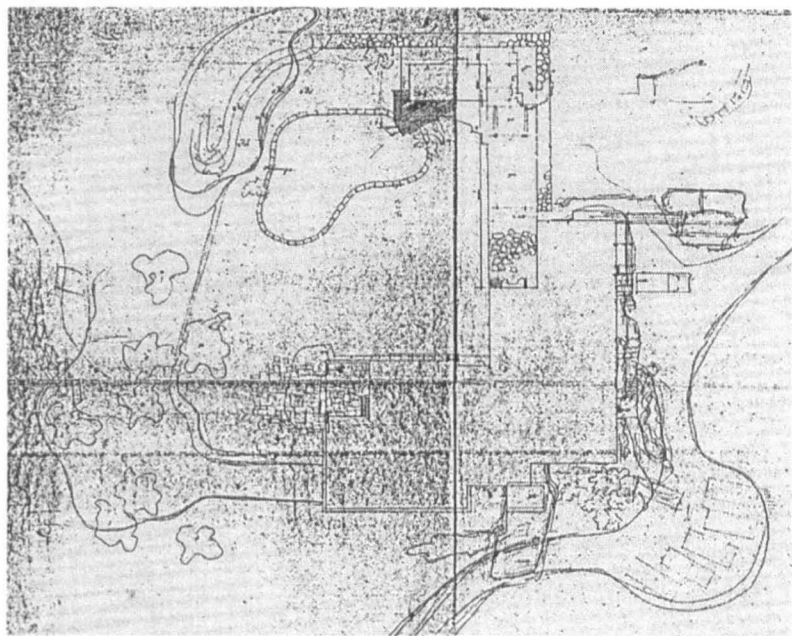
[Fig. 3-44] Main floor alteration study <84/408>



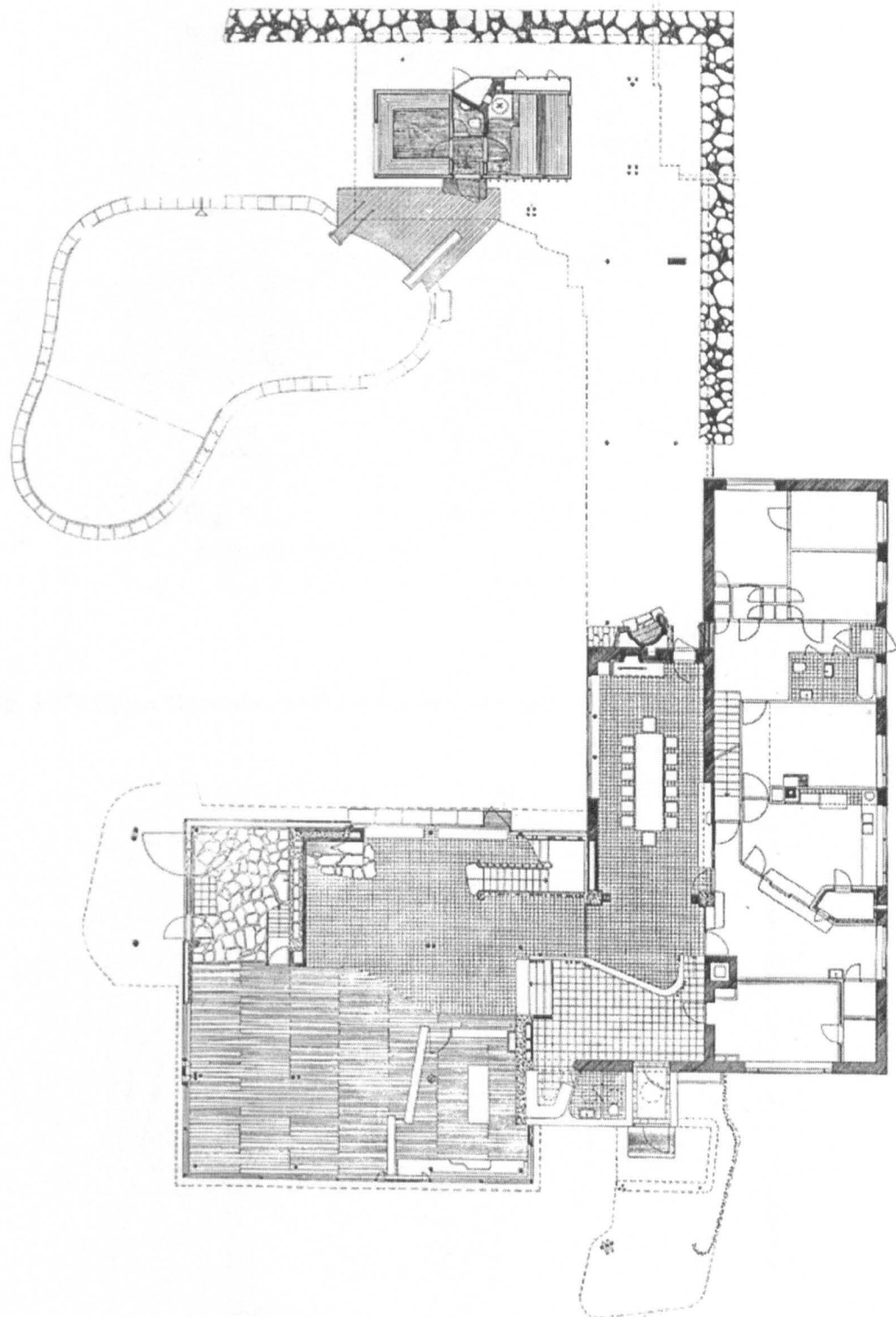
[Fig. 3-45] Change of excavation for foundation from 'Proto-Mairea' to Final Version: overlapping of the two basement plans <84/405>



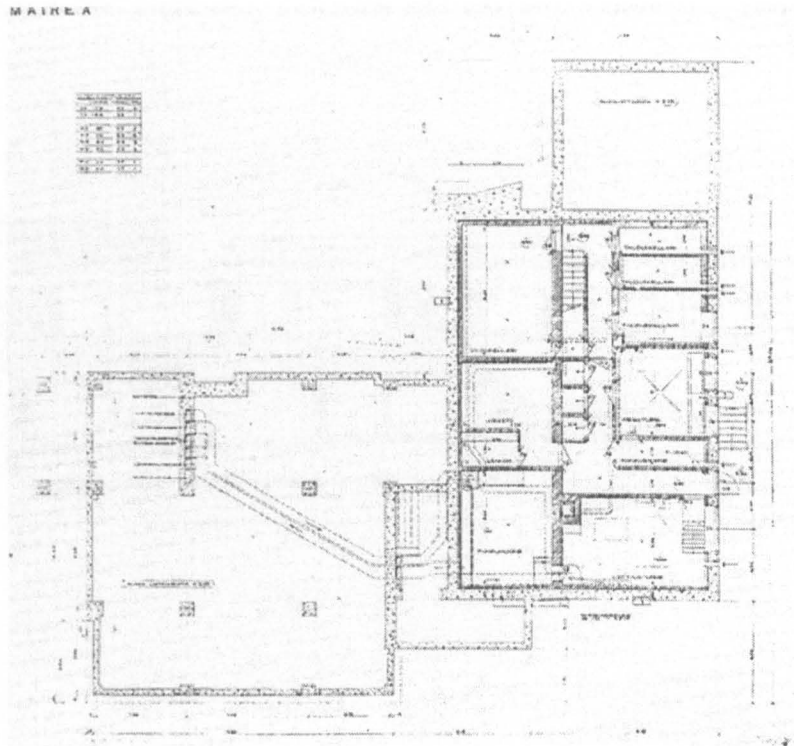
[Fig. 3-46] Site plan <84/430>



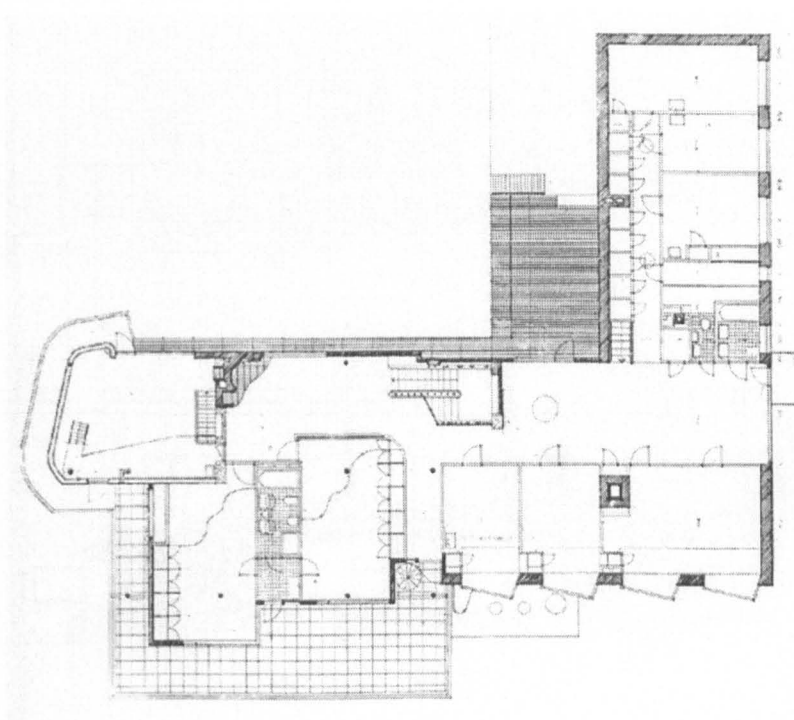
[Fig. 3-47] Main floor plan of Final Version <84/938>



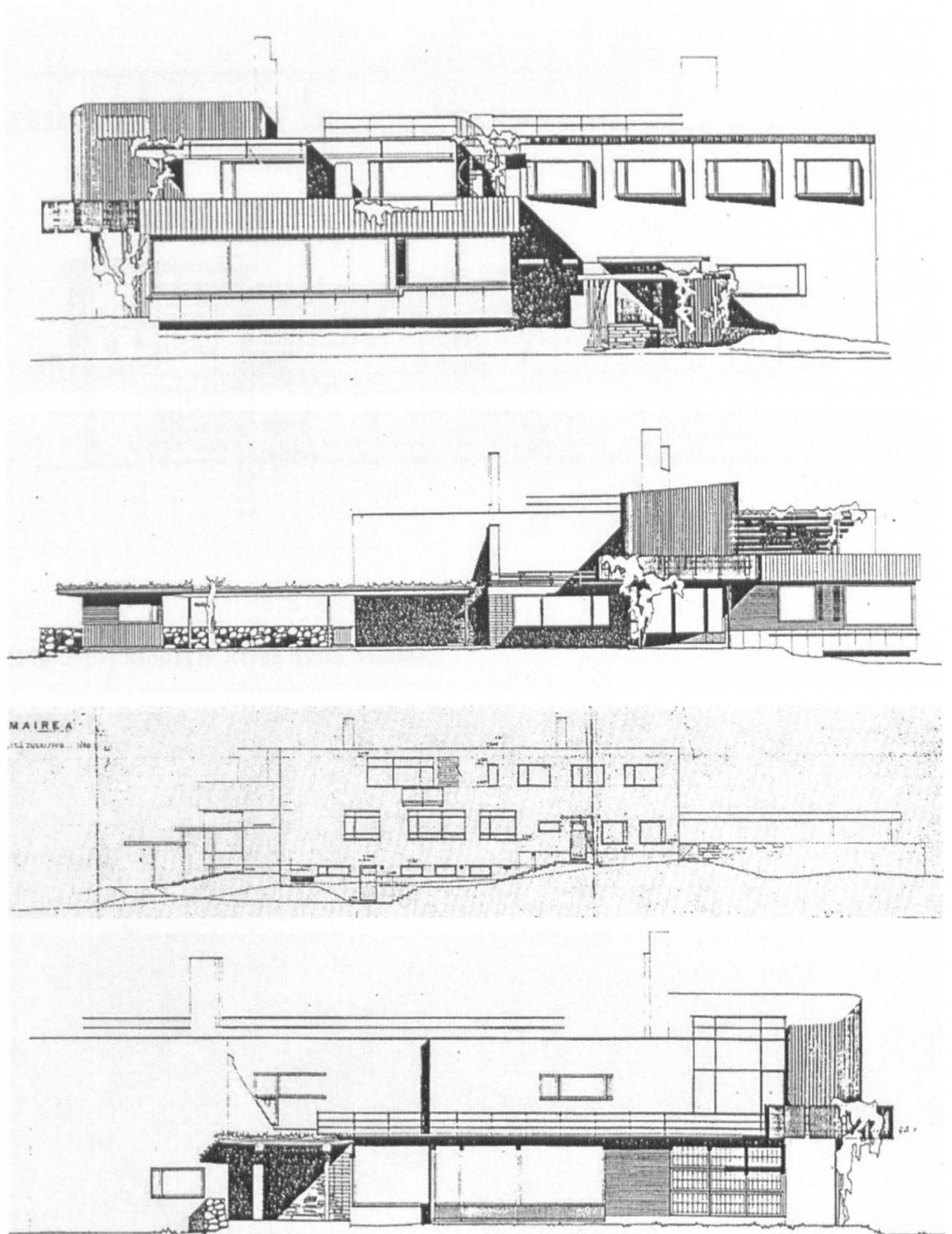
[Fig. 3-48] Basement plan of Final Version <84/435>



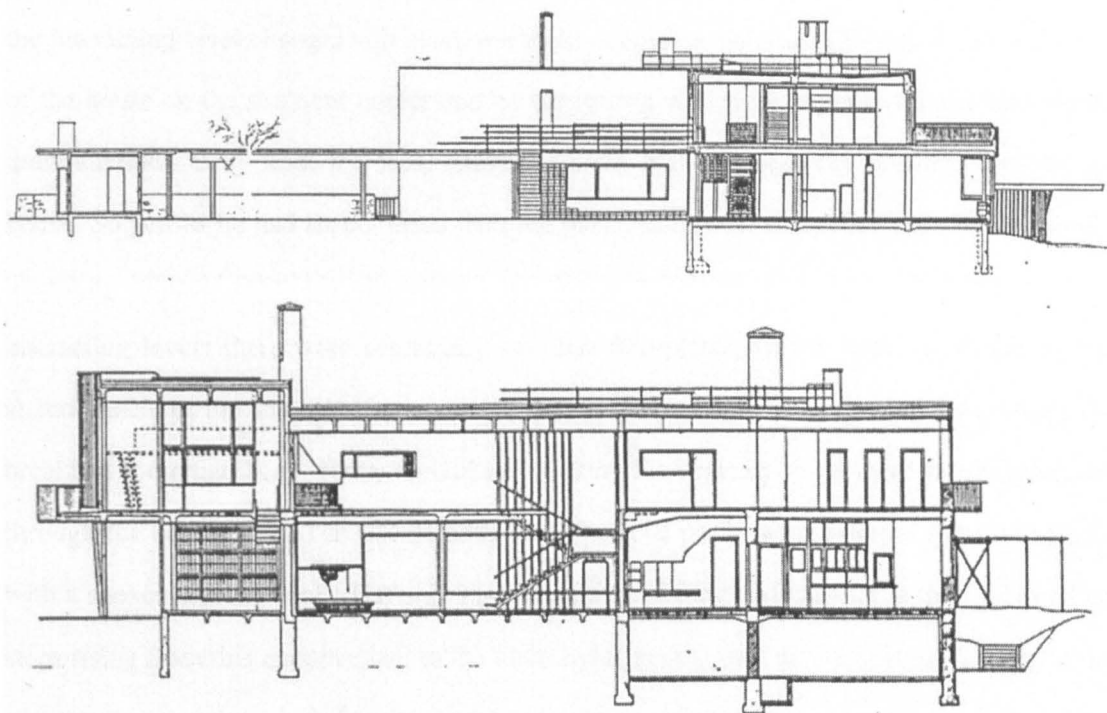
[Fig. 3-49] Upper floor plan of Final Version <84/445>



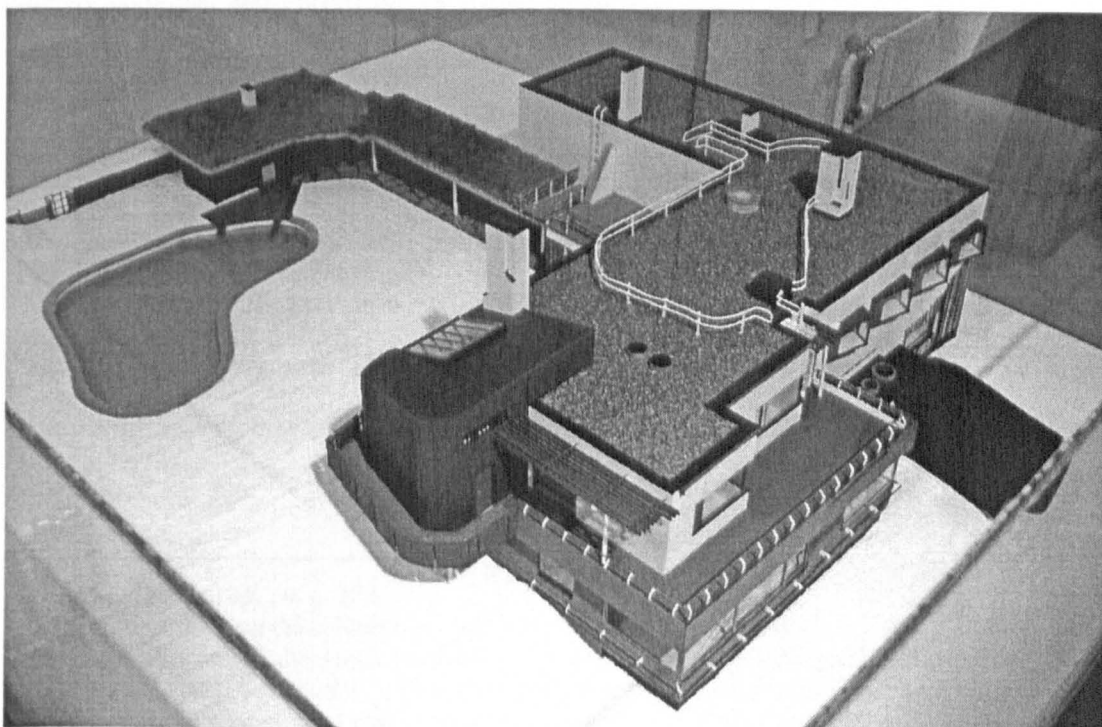
[Fig. 3-50] Southeast, southwest, northeast and northwest elevations <84/449, 452, 453 and 447>



[Fig. 3-51] Longitudinal and cross sections measured by Aalto's office in 1991



[Fig. 3-52] Model in Alvar Aalto Museum





Along with the planimetric change, there also occurred a vertical alteration in the living area. If the 'Proto-Mairea' had already suggested the living rooms as one almost square plan area, the interacting level changes still made it a highly complex volume. The raised external body of the house 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, which were facilitated by the abandonment of the basement entrance. He moved the entrance to the ground floor where the breakfast room had been. Harry Gullichsen preferred it because he no more needed to come through the basement.<sup>33</sup> The rise in level was absorbed partly with external steps and partly with a sunken entrance hall. The only hint remaining of the previous stair is the flight of four steps rising from this entrance hall to the main living room. And 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 (see Fig. 5-64).

<sup>34</sup> In the meantime, the servant wing retained a load bearing wall system in contrast with the structure of the living area. The upper floor underwent two significant changes. One is the south-facing bay window of the children's rooms (Fig. 3-49 and 52), which show Aalto's wish to introduce the sun.<sup>35</sup> The other is the shape of the studio, which becomes trapezoidal in

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<sup>33</sup> Schildt, G (1986) *op. cit.* p. 159.

<sup>34</sup> For a further study on the columns, see 'Chapter 5.2.4. Forest in Forest'.

<sup>35</sup> These bays are remarkably similar to a viewing window in Asplund's designs like the modest Bäckström summer house of 1934, which Aalto might have seen on drawings in Asplund's office which he visited frequently. Another example is Asplund's entry for housing competition on Norr Mälarstrand

shape like the courtyard of the former versions, something lost in this Final Version owing to the removal of the exterior walls. 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>36</sup> and has consistency with the low-height bent wall in the entrance hall. 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-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>37</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. What is more, the boards, laid in parallel with the sauna in 84/441, were orientated towards the swimming pool in the end, and the steps to the sauna also assume a similar gesture (see Fig. 3-47 and Fig. 5-107). It means that the final plan followed

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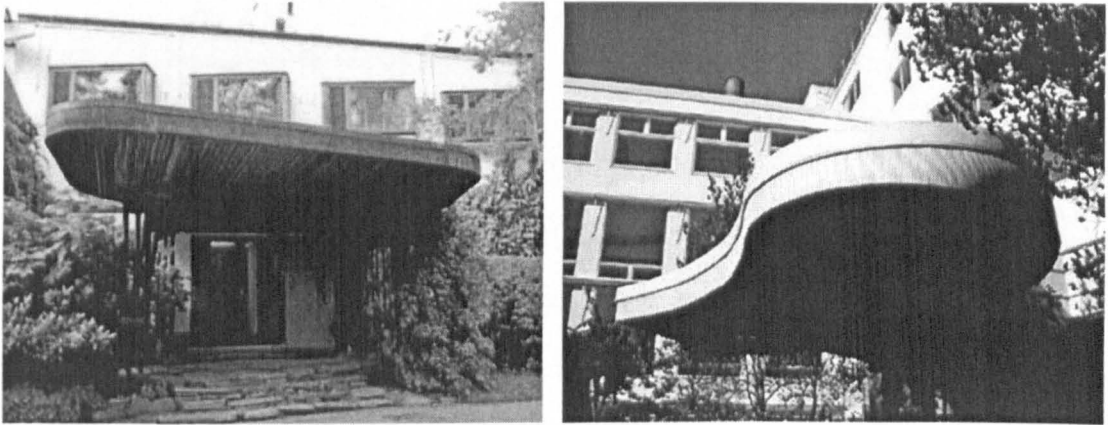
in Stockholm, 1932.

<sup>36</sup> About symbolic functions and practical functions in the Villa Maiea, 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 20<sup>th</sup> EAAE Conference*, Stockholm-Helsinki, pp. 83-86.

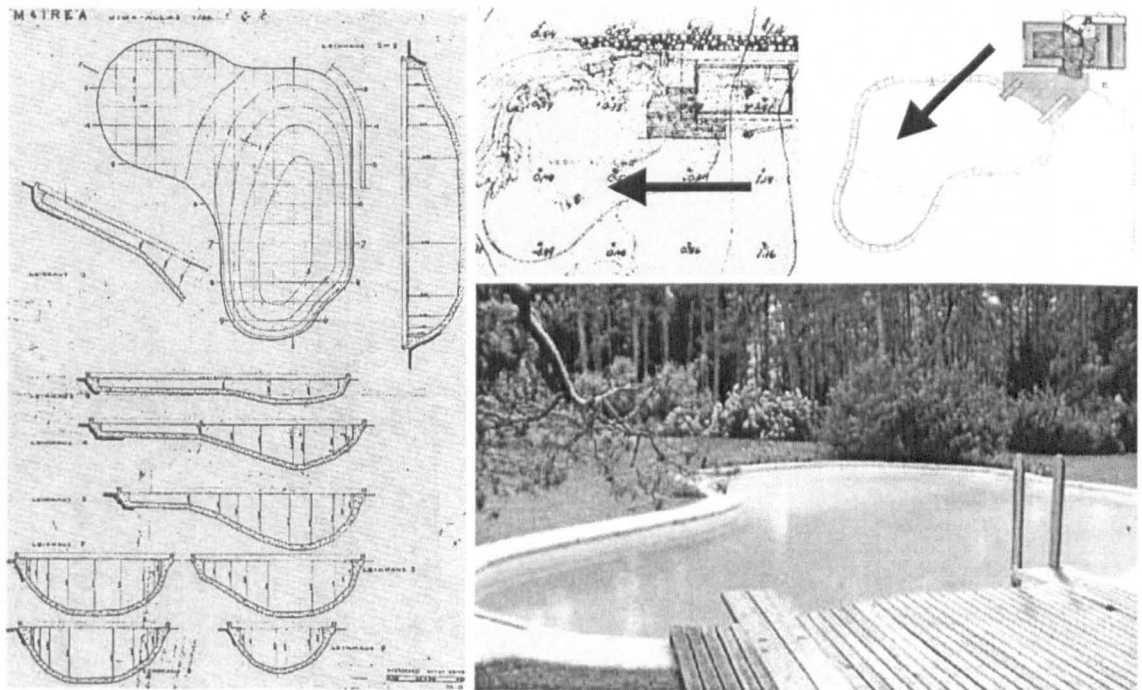
<sup>37</sup> Pallasmaa, J. (1998) 'The Garden', *op. cit.* p. 163.

Finnish custom by relating the sauna and the swimming pool symbolically as well as practically.

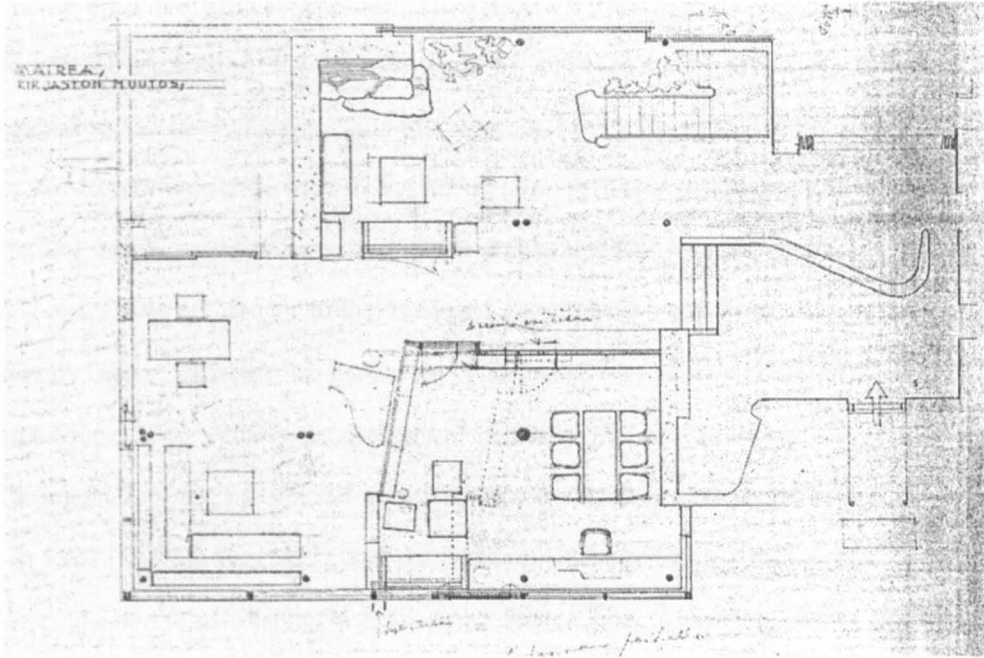
[Fig. 3-53] Entrance canopies of Villa Mairea (left) and Paimio Sanatorium (right)



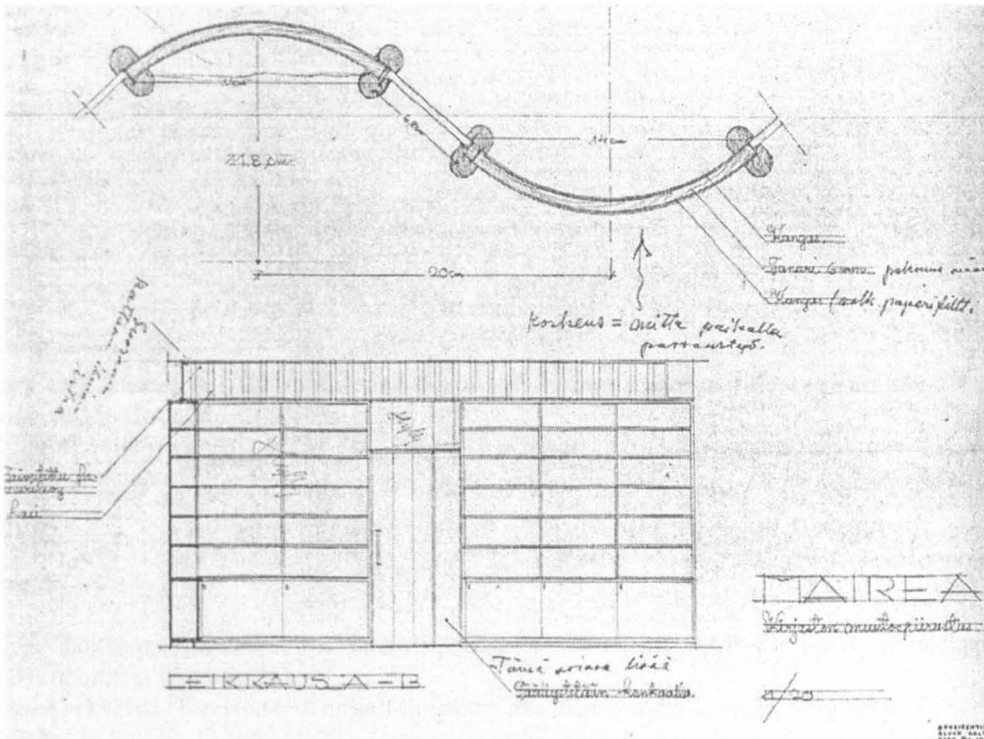
[Fig. 3-54] Images of swimming pool: section drawing <84/454> (left), direction of wooden boards between pool and sauna – sauna step also shifted towards the pool <84/441 and 938> (right top) and view from sauna (right bottom)



[Fig. 3-55] Library extension drawing by Aino Aalto, 1941 <84/927>



[Fig. 3-56] Fixing the library wall: elevation and section detail <84/929> (Compare it with its photo in Fig. 5-57)



After being built, the Villa Mairea must have satisfied the clients as well as the architect with one important exception. That is the lack of Harry's secure library. When the library disappeared in the final change, Aalto proposed that the inner space of the partitions devised for the 'art library' could be used as his library. But to Harry, it seemed impossible to have a confidential business talk there, and more fundamentally he may have thought that the unstable space was not proper to the head of a family and a big company. In addition, it was 'technically more difficult to move the partitions than Aalto may have imagined' as Suominen-Kokkonen (2004) pointed out.<sup>38</sup> Though the living room was built following Aalto's suggestion, the partitioned space was enlarged up to one fourth of the square living room in 1941 (84/927, Fig. 3-55), and the partitions became fixed to the ceiling.<sup>39</sup> As a result, the flexibility of the art display walls was no longer kept. The Alvar Aalto Archive has 11 alteration drawings between 1941 and 1959. Among them, the library extension drawings are 3, and others are for some technical problems like window sills. The later alteration tells us that one of Aalto's important concerns in the final design change ('the walls – in the case of pictures – must be movable'<sup>40</sup>) was not so successful, regrettably.

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<sup>38</sup> Suominen-Kokkonen, R. (2004) *A Library of Art? – The Villa Mairea and Notes on the Gender of the Art Collector*, Pori Art Museum, Pori, p. 36.

<sup>39</sup> Schildt, G. (1986) *op. cit.* pp. 157-159. However, Kristian Gullichsen suggests that the walls are still movable in principle.

In principle, the partitions of the library can still be moved, because the soundproofing upper part of the partitions designed by Aalto were attached to the book shelves and not to the ceiling.

Suominen-Kokkonen's interview with Kristian Gullichsen, 21 August 2003. See Suominen-Kokkonen, R. (2004) *op. cit.* p. 63 (note 26).

<sup>40</sup> Aalto, A. (1939a) 'The Home of a Rich Collector', Yale University Lecture, May 9, 1939. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki. For more description of it in the lecture, see 'Chapter 5.2.2. Space to Combine Art with Life'.

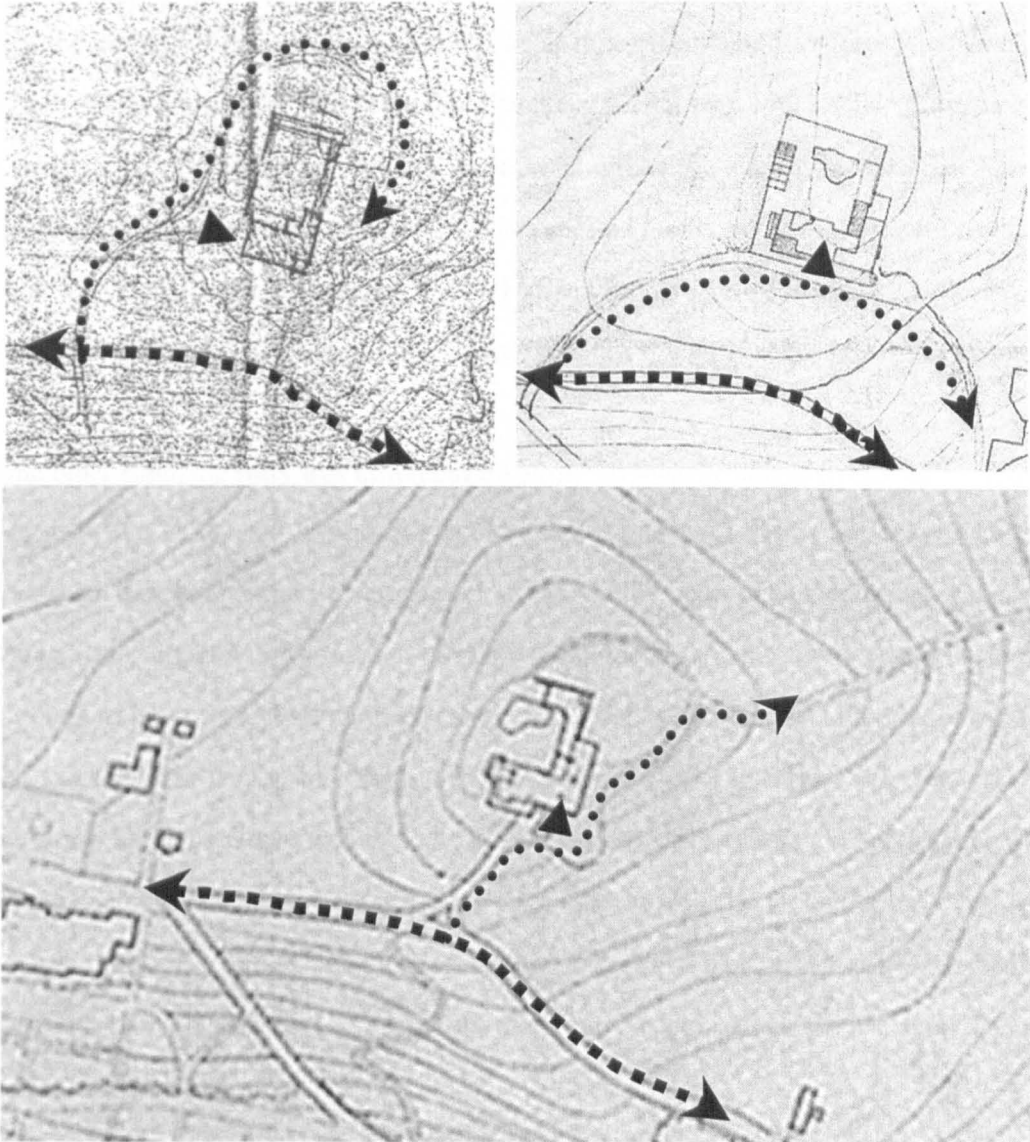
### **3.2. Thematic Approach to Design Evolution**

Up to now, I described each stage of the design synchronically. It was very useful for the understanding of each version of the house. However, it is also helpful as a complement to investigate how a certain theme or element had developed through the whole design process. Because there exist a lot of ideas in the Villa Mairea design, to pick up only a few themes is quite difficult. Nonetheless, I selected several themes that had changed conspicuously during the design process and that are quite important to the understanding of the house. They are: access, entry and circulation; contour and level change; change of orientation; dining area; studio and pool; vestiges of Fallingwater's impact; and 'modular coincidence'.

### 3.2.1. Access, Entry and Circulation

The access road to the Villa Mairea branches out from the existing road that passes through the Havulinna. However, the approach to the new house had changed through the design development. To compare the access way to the house, I chose three site plans. One is the

[Fig. 3-57] Change of access and main entry: up to Early Version 1 <84/423> (top left), Early Version 2 <84/422> (top right) and Final Version drawn by Teemu Toivio and Peter B. Mackeith, 1997 (bottom)



drawing 84/423 that perhaps belongs to the Initial Sketch stage and to the Early Version 1, another is the site plan of the Early Version 2 (84/422), and the third is an executed one that was drawn later by others according to a real measurement.<sup>41</sup> Until the Early Version 1, the access and entry to the house had been from the southern corner as in the site plan. This can be also verified in the initial sketches like 84/164 and 251 (see Fig. 3-8), and in the main floor plan and the southern elevation of the Early Version 1 (see Fig. 3-25). In this case, the road revolves clockwise around the house from the entrance. Coming to the Early Version 2, however, the situation of access changed remarkably. Rather than going round, the access road stretched itself along the southern side of the house. By removing the detour, Aalto could secure the privacy of the courtyard from any noise or annoyance. This approach continued in the Early Version 3, and the 'Proto-Mairea' also had a similar way with a subtle difference that the entrance faces directly towards the access road unlike the former. In the Final Version, Aalto changed the access way again (though he repeated the former access way for a while in several early Final Version sketches like 84/150 and 441 [Fig. 3-43 and 3-61]). That is, the access road was taken off the main road without running along the south side of the house.

On the other hand, the entry was differentiated when the access changed in the Early Version 2. Since then, the house had gained one main entrance and two service entrances facing the access road. The main entrance was located at the middle point of the southeast wing in the basement floor level (in the ground level in the Final Version), and the service entrances were positioned in the right side of the house: one is near the eastern corner in the basement floor level, and the other is at a mid point in the main floor level. The former is a direct entry to store rooms in the basement, and the latter is for servants' easy circulation between the inside and the outside. And the two were well adapted to the relatively steep slope to the right side of the house. This concept continued without change to the final plan, which was described well in east elevations of the 'Proto-Mairea' and the Final Version. Here, we can think about an

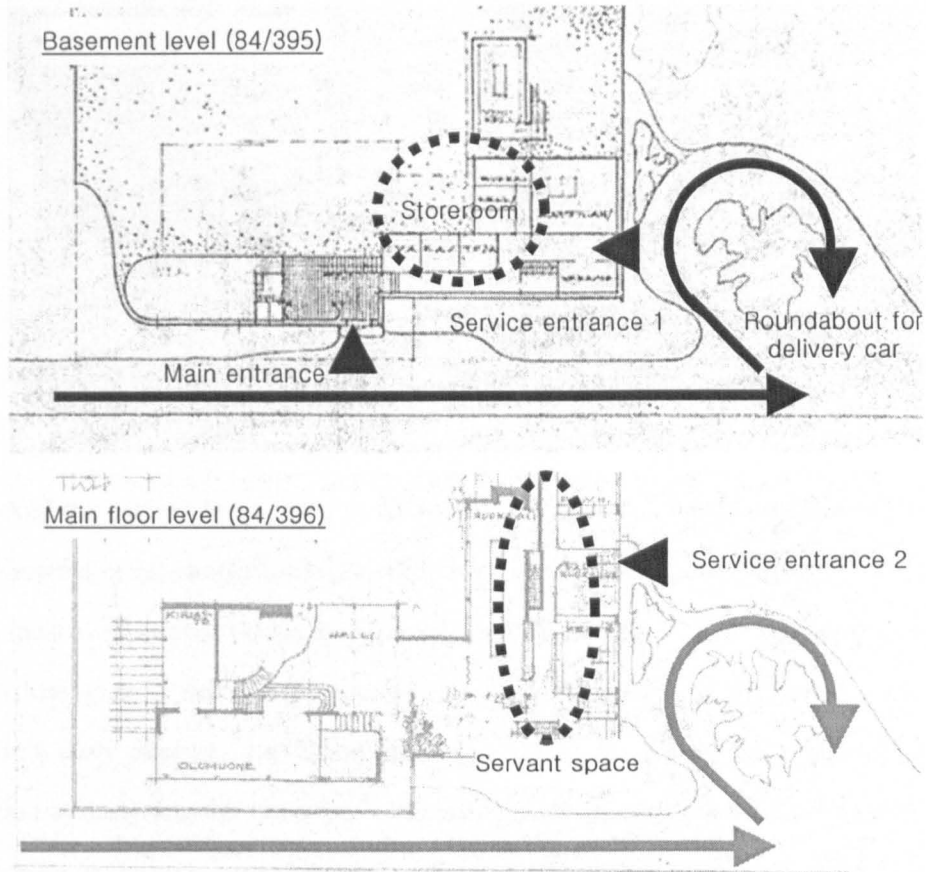
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<sup>41</sup> The archive does not have a consistent series of site plans in each version. And that of the final version does not show a large boundary around the house, which is the reason here that I chose the later drawing by others. The site plan was drawn by Teemu Toivio and Peter B. Mackeith in 1997.

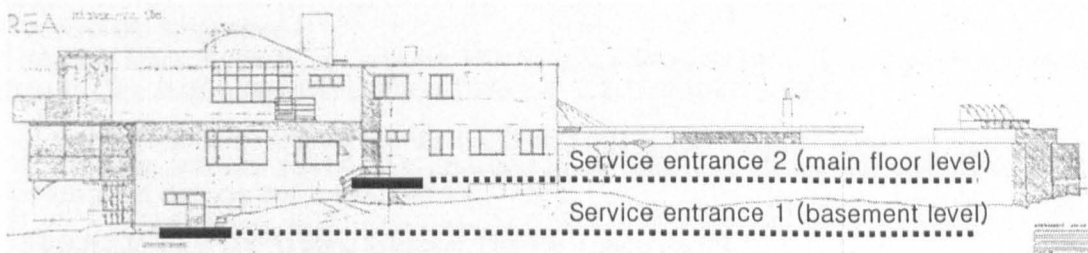


access by car from the west on the basis of the Early Version 2 (Fig. 3-58). The clients' car can drop them off at the main entrance and then drive to the small roundabout beside the servant wing, to which the deepest consideration of car circulation was given for efficient service

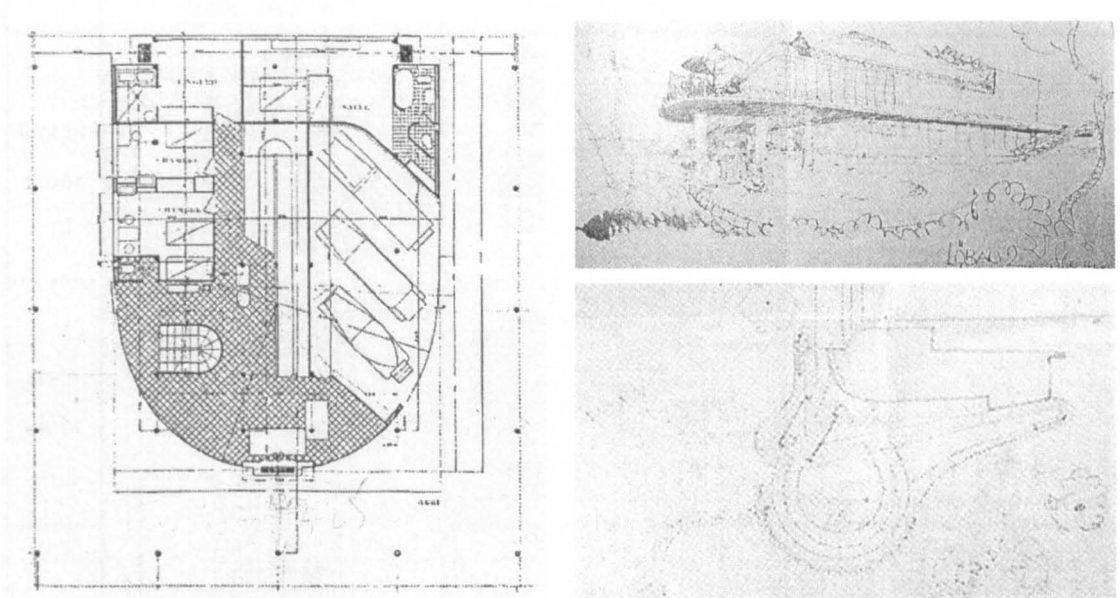
[Fig. 3-58] Divided entrances in Early Version 2



[Fig. 3-59] Service entrances in 'Proto-Mairea' elevation <84/420>



[Fig. 3-60] Car circulation in modernists' house: ground floor plan of Villa Savoye by Le Corbusier, 1929 (left) and early sketches of Schminke house by Hans Scharoun, 1932-33 (right)



works. And the car can keep going down to 'Isotalo' that has (had) a car parking lot.<sup>42</sup> This kind of interest in car circulation had already been shown in many modernists' designs. Above all, the most well known house, Le Corbusier's Villa Savoye (1929) illustrates it very well because 'the ground floor envelope was shaped by the flow of the arriving car'.<sup>43</sup> And Scharoun's early sketches for Schminke House (1932-33) showed the priority of the car circulation in designing the site plan.<sup>44</sup> Interestingly, Aalto also revealed his careful attention to car access in his own house by bending the end of the garage wall no matter how weak it may be (see Fig. 4-16).<sup>45</sup>

<sup>42</sup> Kristian Gullichsen recalled that his parents' car was parked in the parking lot near 'Isotalo'. Author's conversation with Kristian Gullichsen on August 2 of 2003 in Jyväskylä University during the 9<sup>th</sup> Alvar Aalto Symposium.

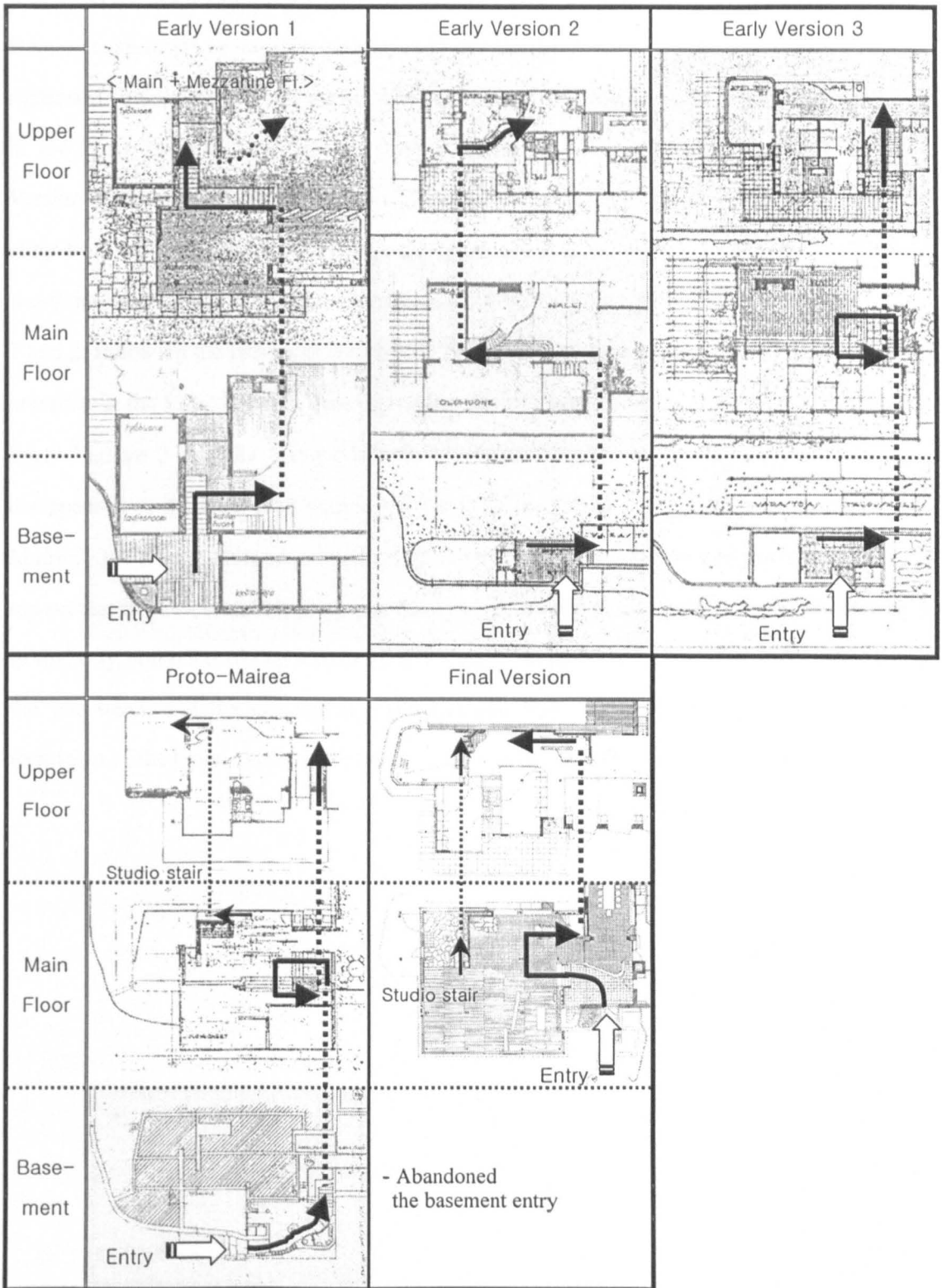
<sup>43</sup> Blundell Jones, P. (2002) 'Le Corbusier: Villa Savoye, Poissy near Paris, 1929', *Modern Architecture Through Case Studies*, Architectural Press, Oxford, p. 112. He keeps describing:

Coming from behind, it drove underneath the edge of the house, dropped the owners at the front, and was parked by its chauffeur in the garage at the far side on a dynamic diagonal, the only one in the building.

<sup>44</sup> Blundell Jones, P. (1995) *Hans Scharoun*, Phaidon, London, p. 74.

<sup>45</sup> This bent wall might have two purposes: first, to widen the opening for a car; and second, to introduce the stepping stones that link between the main entrance and the garage. See 'Chapter 4.2. Aalto's Own House in Munkkiniemi, 1934-36'.

[Fig. 3-61] Interior vertical circulation of each version



The change of the exterior circulation resulted in the alteration of the interior circulation. In [Fig. 3-61], I described the interior circulation of each version comparing one with another. Here, we can notify several characteristics of the change. Firstly, the entrance position moved rightwards little by little from the south corner in the Early Version 1 to the dining room band in the Final Version. Secondly, the entry direction is from south to north from the Early Version 2 onwards except in the 'Proto-Mairea'. Because Aalto made much of the flowing entry from the access in the 'Proto-Mairea', the direction accords with the access road. Thirdly, wavy movements had been designed constantly: following the studio wall in the Early Version 1 and 2, following the basement wall in the 'Proto-Mairea', and guided by the bent wall of the entrance in the Final Version. Fourthly, Aalto tried to make a vertical circulation core in the Early Version 3 and the 'Proto-Mairea', binding tightly the scattered stairs. But the core disappeared in the final plan because of the simplified floor level. Lastly, from the 'Proto-Mairea', the studio staircase complements the vertical circulation in the south wing for the reason that it was a relatively long way from the main core to the studio in the Early Version 3. In this way, Aalto's evolving idea had made many changes in the circulation inside and out on the one hand, and the circulation itself had also had a critical influence on the interior formation of the house on the other hand.

### 3.2.2. Contour and Level Change

Japanese architect Fujimoto Masaya (1983) classified architects into two groups: architects of 'the earth' (大地派) and architects of 'the heaven' (天空派). The former respond sensitively to voices of the culture and the earth, whereas the others have celestial principles that can be applied absolutely to all architecture. In this sense, he regarded Aalto as the greatest architect of 'the earth' whom the 20<sup>th</sup> century had borne. For Aalto created a new abundant human environment by integrating architecture dramatically with the earth. In the integration of man and nature, contour lines played a pivotal role as a key image for Aalto's architectural creation, which was called 'aesthetics of contour lines' by Fujimoto.<sup>46</sup> Aalto's intimacy with the contour lines could be traced back to his childhood 'white table', where his father and assistant surveyors investigated or made large forest maps. Pointing out this memory, Schildt described as follows: 'The surveyor's attitude to nature is flexible and a dialogue of necessity; all that he does has to be adapted to the terrain, the landscape and previous building.'<sup>47</sup>

In the design process of the Villa Mairea, also, we can see Aalto's sensitive response to the given terrain and the pursuit of utilising the uneven ground level. As we saw in the previous chapter, Aalto made the most of the hilly site to dramatise the effect of the cantilevered terrace. And he followed contour lines faithfully in the southern corner of the basement, which was most vividly expressed in the 'Proto-Mairea' basement floor plan. Locating the house within the topographical features had been studied over and over, and the site plans of 84/422 (see Fig. 3-27) and 423 (see Fig. 3-5) show the location clearly. Particularly, a plan of the final stage, 84/441 (Fig. 3-62) records detailed ground levels at every five-metre-interval with contour lines.<sup>48</sup> According to it, the northeast part of the site is highest (+2.09) and the southeast lowest (-0.79), and the difference is about 3 metres. As already mentioned, Aalto

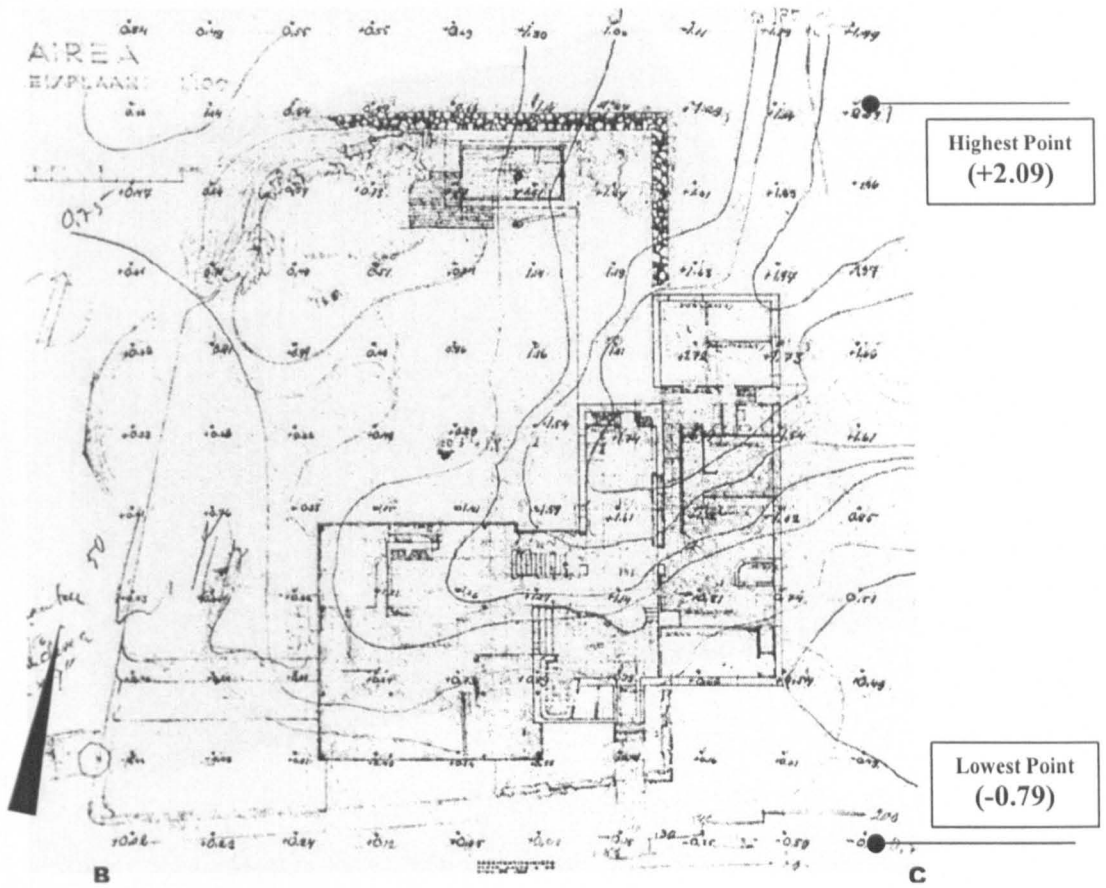
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<sup>46</sup> Fujimoto, M. (1983) 'Alvar Aalto – Architectural Aesthetics of His Contour Lines' (text in Japanese). In Nakamura, T. (ed.) (1983) *Architecture and Urbanism*, May 1983 extra edition, A+U Publishing Co., Tokyo, pp. 192-193.

<sup>47</sup> Schildt, G. (1984) *Alva Aalto: The Early Years*, Rizzoli, New York. pp. 200-201.

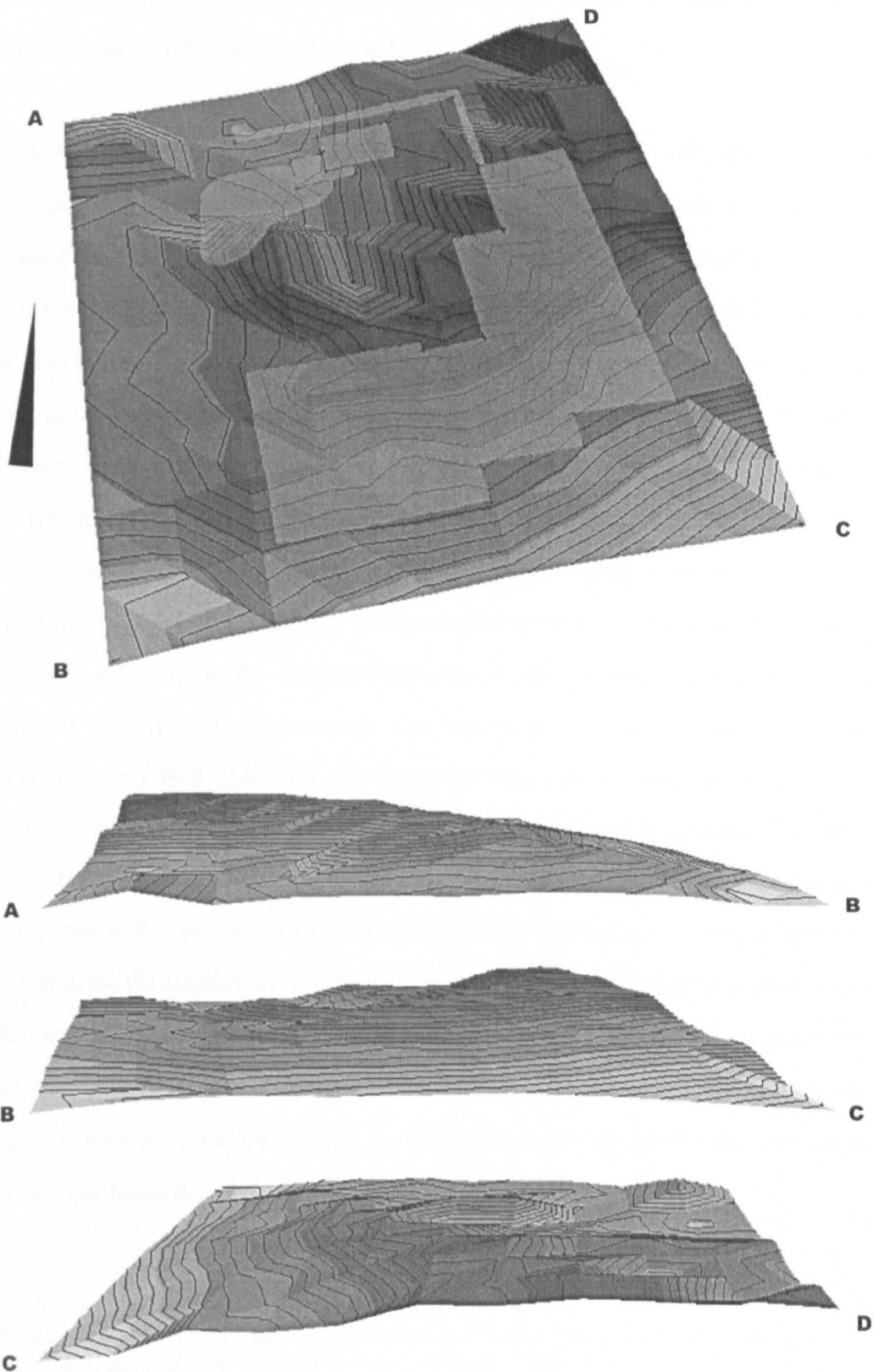
<sup>48</sup> Another plan 84/405 also shows ground levels with a different datum (see Fig. 3-45).

[Fig. 3-62] Site plan with contour lines in final stage and levels in each point <84/441>



A										D
	+0.54	+0.49	+0.55	+0.55	+0.69	+1.30	+1.06	+1.11	+1.89	+1.99
	+0.96	+1.04	+0.54	+0.47	+0.66	+1.14	+1.27	+1.29	+1.14	+2.09
	+0.47	+0.54	+0.57	+0.73	+0.77	+1.21	+1.27	+1.01	+1.99	+1.96
	+0.65	+0.71	+0.49	+0.51	+0.84	+1.14	+1.19	+1.63	+1.97	+1.97
	+0.62	+0.71	+0.99	+0.49	+0.86	+1.16	+1.81	+1.72	+1.73	+1.66
	+0.53	+0.66	+0.82	+0.49	+0.89	+1.54	+1.74	+1.79	+1.54	+1.61
	+0.61	+0.76	+0.85	+1.05	+1.41	+1.59	+1.61	+1.32	+1.02	+0.85
	+0.53	+0.64	+0.82	+1.21	+1.26	+1.27	+1.14	+0.81	+0.74	+0.51
	+0.40	+0.54	+0.89	+0.84	+0.73	+0.89	+0.79	+0.62	+0.54	+0.49
	-0.06	-0.09	+0.51	+0.49	+0.54	+0.55	+0.41	+0.16	+0.01	-0.49
	+0.02	+0.22	+0.24	+0.12	+0.05	+0.03	-0.15	-0.35	-0.59	-0.79
B										C

[Fig. 3-63] Site computer 3D model with 10cm difference between contour lines



put the basement service entrance in the lower side and the main floor service entrance in the higher side, taking advantage of the rise. I have produced 3D computer models of the site (Fig. 3-63) on the basis of the plan 84/441 to help our understanding.

Aalto's contouring is not limited to plans but showed in sections as well, as Mark A. Hewitt (1989) implied.<sup>49</sup> Seeing the sections of each version, we can directly confirm the level changes. Of course, the elevations also show them more descriptively. What we come to know here is the fact that the courtyard level is interestingly a little higher than the outside ground level, and the courtyard was designed to be flat. These two levels – of the courtyard and the outside ground – are well illustrated in the south-north section of the 'Proto-Mairea', because it shows two lines at the same time. Even if it is true that Aalto considered the given terrain in the 'Proto-Mairea' contrary to the earlier versions when he designed three terraces, he still needed to artificially flatten each terrace. The artificial flattening of the earth seems to contradict his topographical concerns. In this case, however, Aalto had more intention to make a paradise garden within the enclosed courtyard, isolating it from the outside world. This raised and flattened courtyard concept was applied later to many works, for example, Săynätsalo Town Hall (1949-52) and Seinäjoki City Centre (1961-65). This motif was possibly indebted to Aalto's admiration of Italian hill-towns from his childhood.<sup>50</sup> In addition, the negative contours of the swimming pool in the 'Proto-Mairea' and in the Final Version are also a humorous but very reasonable example of Aalto's contouring as already mentioned. On the other hand, the exterior level changes according to terrain are reflected in a different way in the interior. Especially, the Early Version 1 and 2 had complicated floor levels – main, mezzanine, studio and upper floor – with different ceiling heights of each and from the servant wing. And the interior was mediated by the terrace level with the exterior. But the complexity of the interior levels decreased by degrees and disappeared at last.

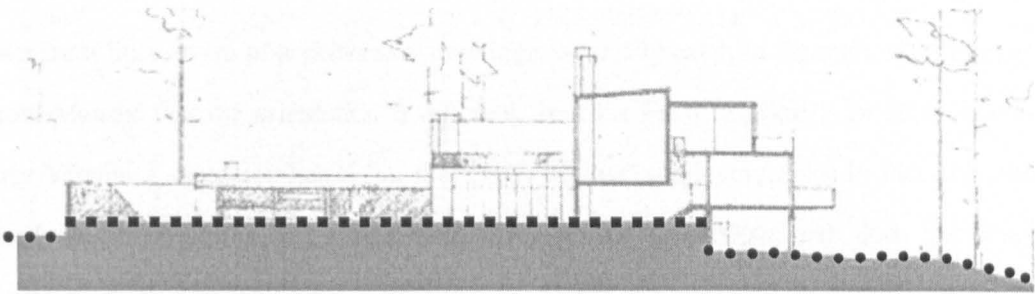
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<sup>49</sup> Hewitt, M. A. (1989) 'The Imaginary Mountain: The Significance of Contour in Alvar Aalto's Sketches', *Perspecta* 25, The Yale Architectural Journal, pp. 162-177.

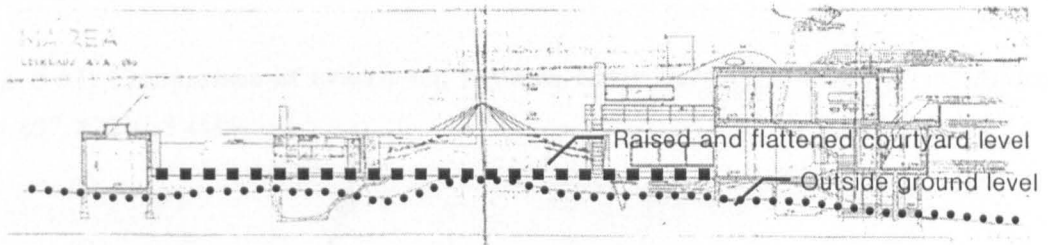
<sup>50</sup> Schildt, G. (1984) *op. cit.*



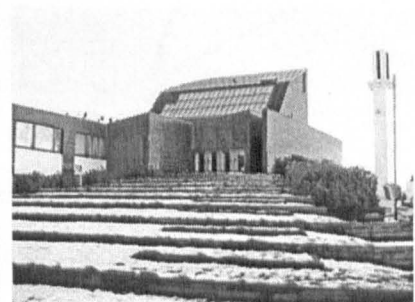
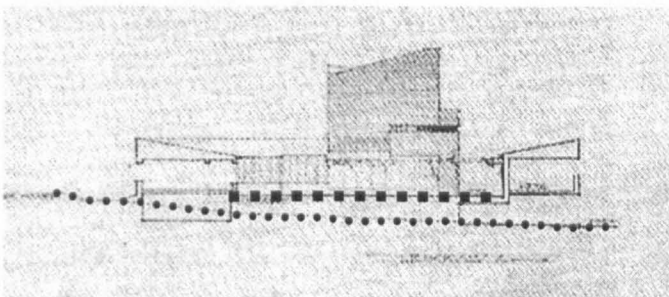
[Fig. 3-64] Artificially raised and flattened courtyard level, section of Early Version 2 <84/400>



[Fig. 3-65] Comparison of courtyard level and ground level, section of 'Proto-Mairea' <84/414>



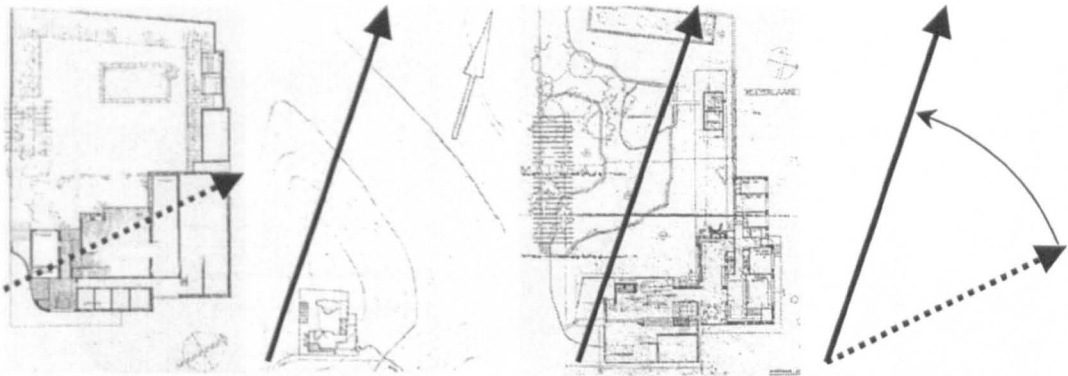
[Fig. 3-66] Raised plateau in later works: Säynätsalto Town Hall, 1949-52 (left) and Seinäjoki Town Hall, 1961-65 (right)



### 3.2.3. Change of Orientation

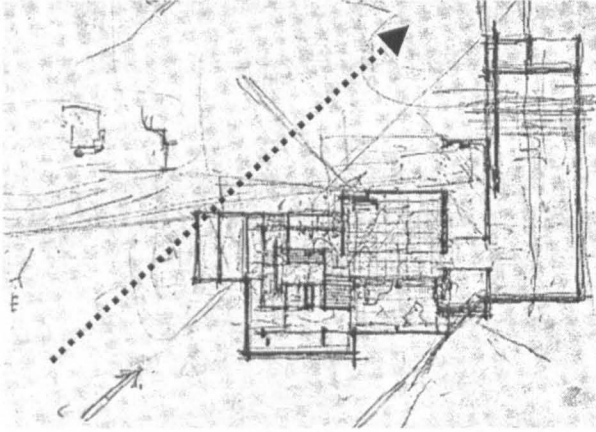
If we are a little aware of architectural drawings, we easily catch in the main floor plan of the 'Proto-Mairea' that the orientation is different from the Early Version 1. In other words, the Early Version 1 faces southeast, but the 'Proto-Mairea' south-southeast. In fact, this change already occurred in the Early Version 2, although the main floor plan does not bear any orientation mark. We can find it in the site plan, 84/422. As shown in the following illustration, the difference is approximately 45°. Then, what is the reason for the difference? We can think of two possible explanations. One is that Aalto deliberately intended the change, and the other that it was caused by ignorance of the precise orientation in the earlier design phase.

[Fig. 3-67] Comparison of orientation between Early Version 1, 2 and 'Proto-Mairea' <84/407, 422 and 411>

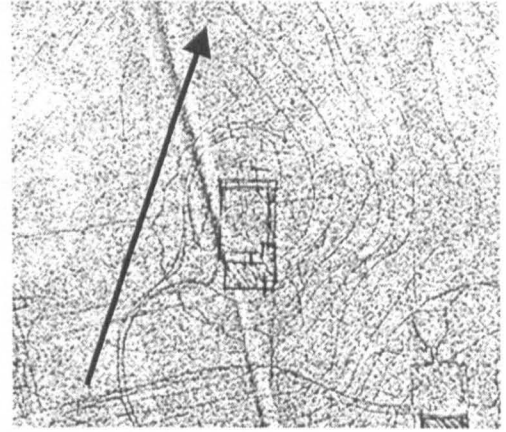


The former explanation at first seems to make better sense because Aalto was a very site-sensitive architect. Deciding an orientation is one of the most important preconditions for an architectural design. Furthermore, the difference of 45° is not an ignorable gap. However, some facts contradict this assumption. Firstly, there was inconsistency of the orientation in the Initial Sketch stage. Although several initial sketches show the same direction (facing southeast) as in the Early Version 1, the site plan 84/423 (see Fig. 3-5), which presumably belongs to the Initial Sketch stage, orients the house to south-southeast as the Early Version 2 site plan does. The inconsistency might be due to the inaccuracy of freehand sketches that

[Fig. 3-68] Inconsistency of orientation in Initial Sketch stage <84/213 and 423>

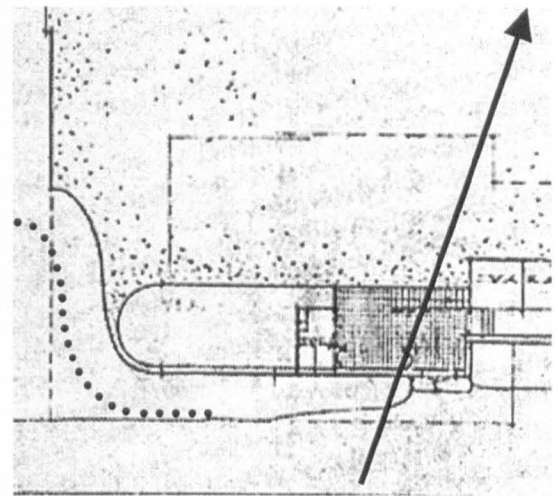
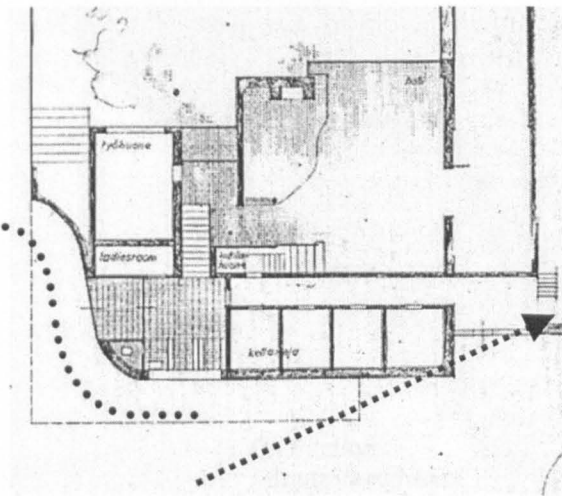


\* Sketch not drawn on accurately oriented plan



\* Sketch drawn on accurately oriented plan

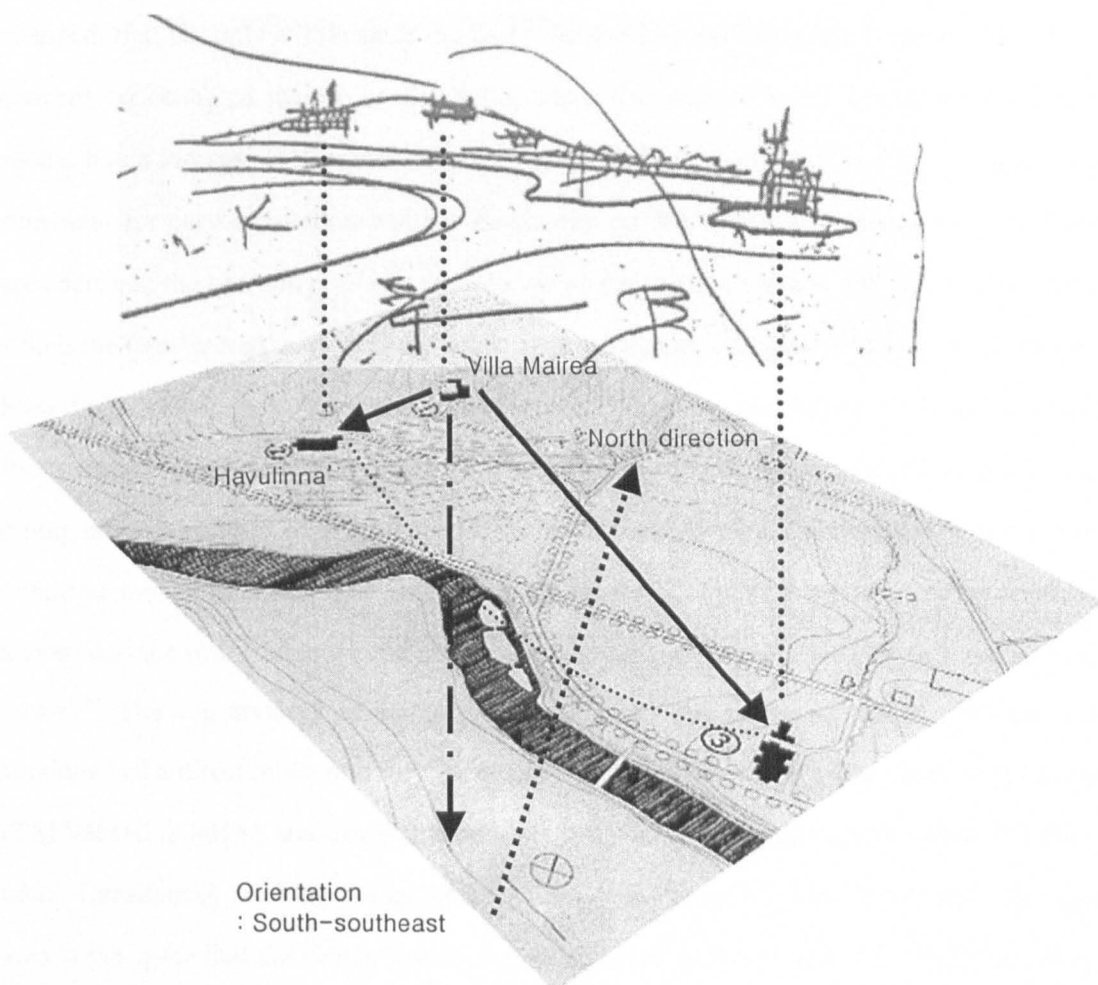
[Fig. 3-69] No change of curvilinearity at the southern corner despite the change of orientation (Early Version 1 and 2)



were not drawn on accurately oriented site plans (Fig. 3-68). Secondly, the curved southern corner of the Early Version 1 and 2 produces contrary evidence for Aalto's deliberate intention of the change. Despite the fact that the direction was rotated about  $45^\circ$ , the contour-adapted southern corner remained exactly the same. If Aalto wanted to rotate the orientation, the corner's curvilinear shape should be changed, too. It verifies that he did not intend any change

in the adaptation of the house to the site. Therefore, I cannot but conclude that the change of the orientation since the Early Version 2 was caused by the inaccuracy of orientation in the earlier sketches, in spite of the ambiguity of the reason.

[Fig. 3-70] Orientation on the basis of the three houses' relation: drawing <84/215> (top) and site plan by Teemu Toivio and Peter B. Mackeith in 1997 (bottom)



As described in the Stage One, there were two bases on which Aalto decided the orientation. The first one is the locus of the sun, and the second one is the Villa Mairea's relation with the earlier two houses. Particularly, the latter is very critical, for Aalto hoped that the Villa Mairea would hold the two rivals in check, or at least look over them while facing towards the south-southeast.

### 3.2.4. Dining Area as Intermediary Space

Although the main body of the house has two wings, the interior space of the main floor can be divided into three areas: a 'served space' of the southern wing, a 'servant space' of the eastern wing, and an intermediary space of the dining area between them. In contrast with the living areas of the southern wing, the western wing of the 'servant space' and dining area had changed, if at all, only a little since the Early Version 1 to the final plan. It means that Aalto's concern concentrated mainly on the living areas. The servant space is composed of many rooms like a kitchen and several servants' rooms, and it has its own door to the outside and staircases for easy circulation without trespassing on the 'beloved' living areas. The dining area between the two wings can be regarded as an intermediary space, that is, a buffer zone in which the two 'served' and 'serving' roles frequently cross together. And the dining area had been divided again into two rooms: a larger room with a long rectangular table, and a smaller room with a round table. The former might be for many guests or for a party, and its long dining table, which had been designed for the Gullichsens' former Helsinki flat by Aino Aalto, would be moved in here.<sup>51</sup> The latter is for the family's cosy meal – especially for breakfast, and around the round table we can see exuberant plants, so it was related to an interior 'forest space'.<sup>52</sup> The conservatory of the Early Version 1 and the exuberant plants of all the early versions had a direct relation to the Gullichsens' former flat, since it had a small winter garden (TALVIPUUTARHA), transformed from a balcony, with many plants right beside the dining table. Considering the long dining table and the greenery in the breakfast room, this dining area is the space that the clients' former accommodation influenced most.<sup>53</sup> These two dining rooms had flexible walls or doors in slightly different ways in each version, which give the house flexibility with some other elements like the partition walls for the art exhibition. The flexible wall concept in the dining room survived into the executed house.

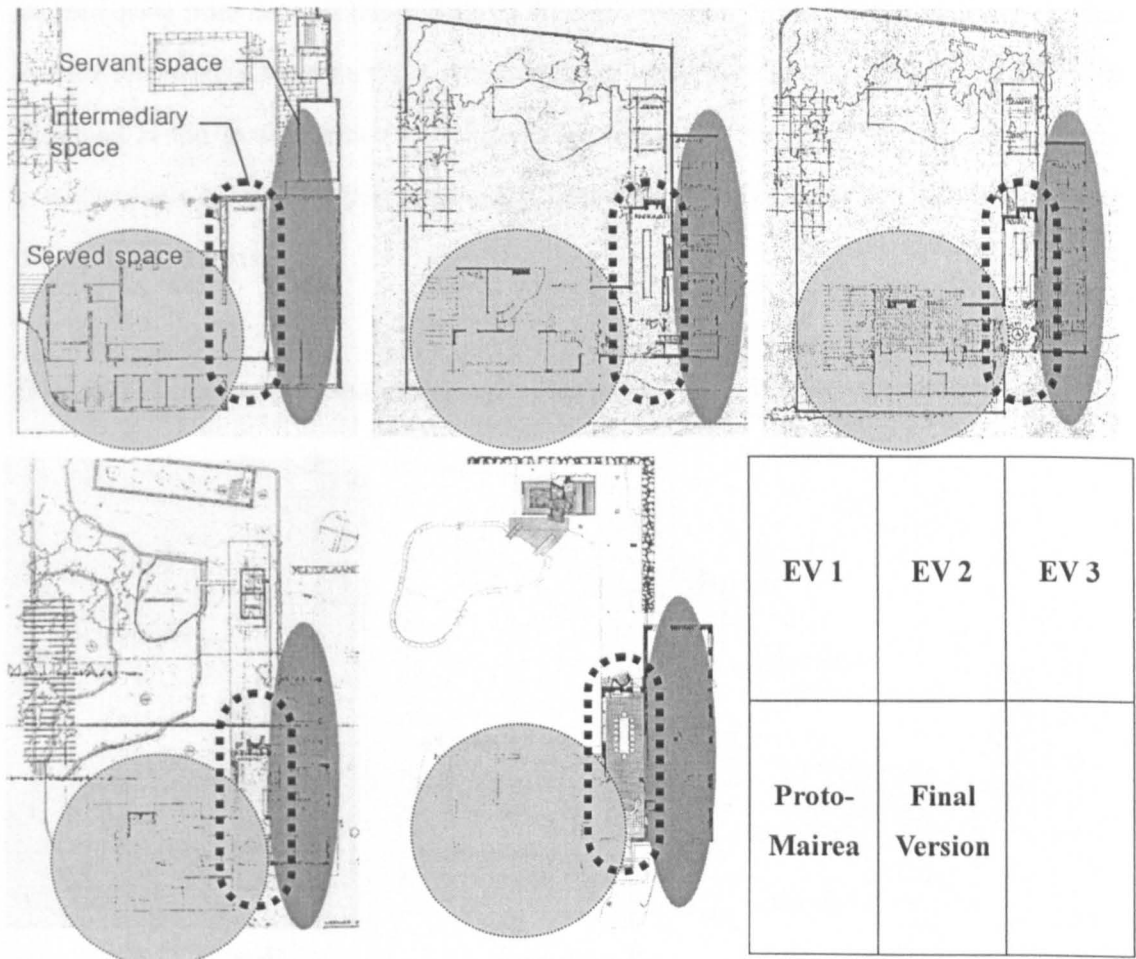
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<sup>51</sup> Suominen-Kokkonen, R. (1998) 'The Interior Design'. In Pallasmaa, J. (ed.) (1998) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, pp. 126-134.

<sup>52</sup> About the origin of the term, 'forest space', see Schildt, G. (1986) *op. cit.* pp. 117-118, 160. And I will discuss it in 'Chapter 5.2.4. Forest in Forest'.

<sup>53</sup> For the Gullichsen's former flat, see 'Chapter 4.4. Gullichsens' Flat Renovation in Helsinki, 1936'.

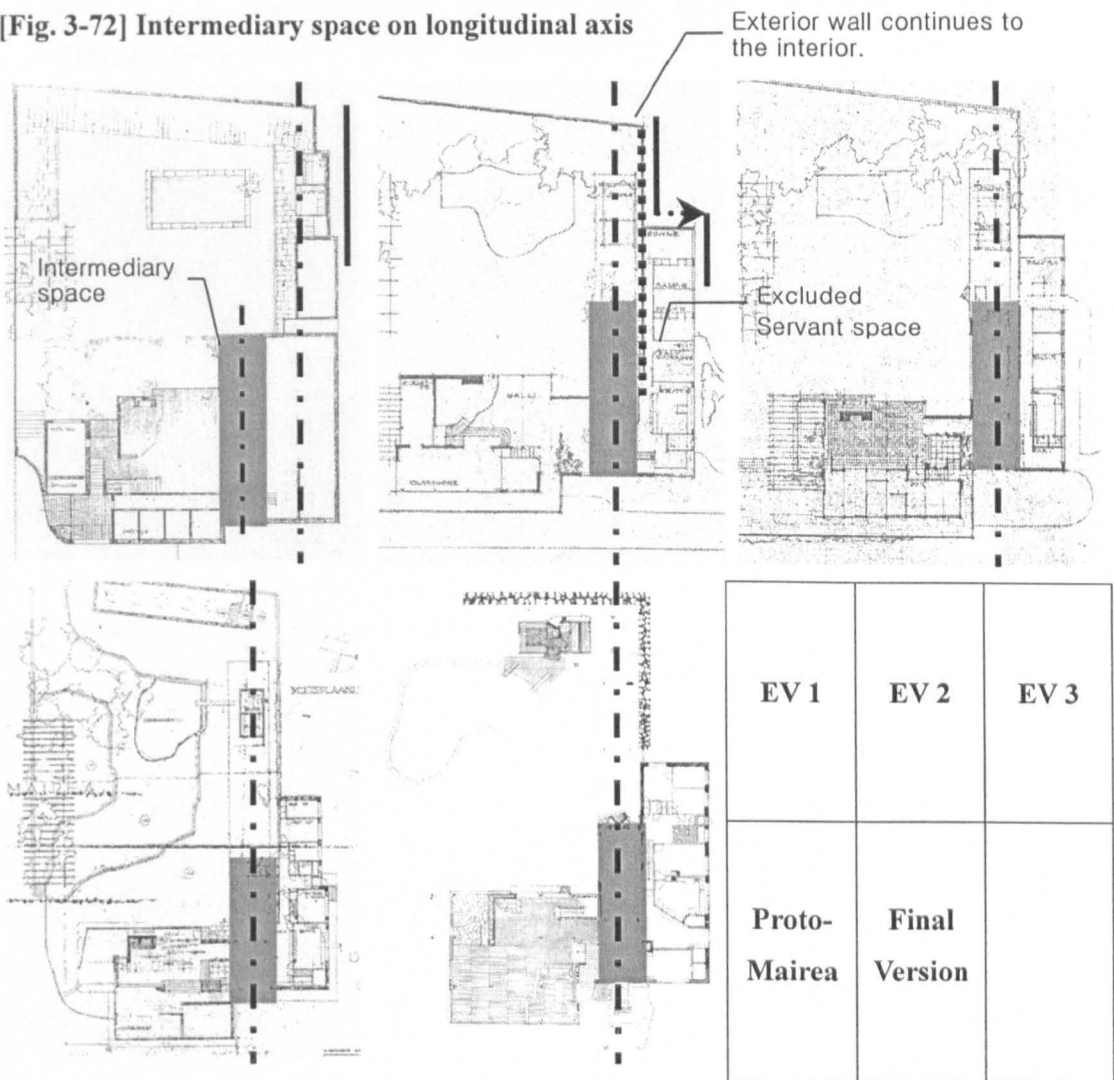
[Fig. 3-71] Three divided areas of main floor



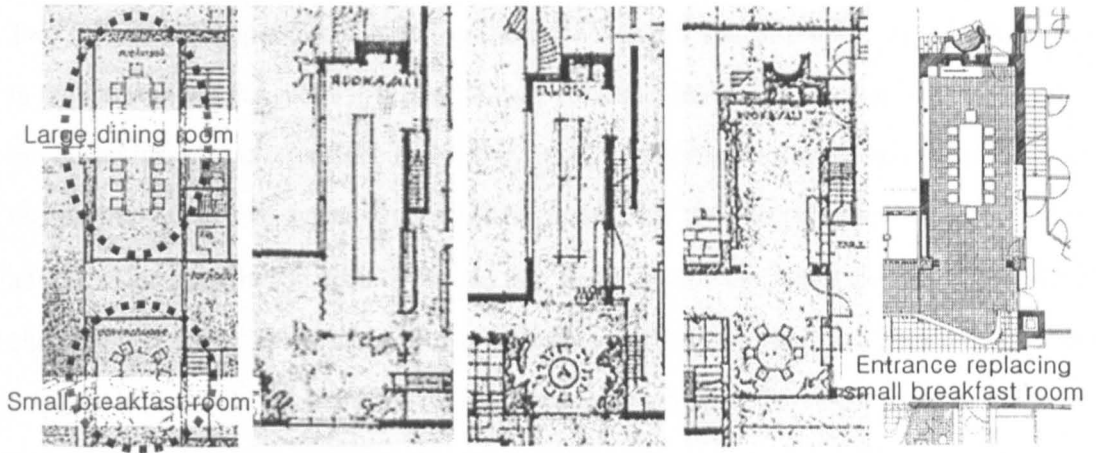
On the other hand, there is an interesting difference about the dining room position between the Early Version 1 and the later versions. That is to say, the dining room moved to on the longitudinal axis of the outside terrace and the sauna in the Early Version 2, and became an important interior part of the axis. This axis crosses together with the transverse of the children's hall of the upper floor in the same version. Accordingly the line of the 'servant space' stepped back to the right side, and the exterior wall continued to the interior, dividing the servant space from the dining room. Through this gesture, servants are in fact excluded from the major part of the house. As a result, the enclosed courtyard became wider in the

Early Version 2 and 3, and the narrower connection part of the two wings made them more articulated. It is interesting to notice that the breakfast room centred on the round table stepped aside from the axis temporarily in the Early Version 2. This might be due to the fact that the long dining room moved rightwards in the Early Version 2 while the breakfast room remained at the same position but became broadened. In the Final Version, however, the breakfast room itself was totally removed to make way for the entrance hall, and only the long dining room remains.

**[Fig. 3-72] Intermediary space on longitudinal axis**



[Fig. 3-73] Dining area in intermediary space (Early Version 1, 2 and 3, 'Proto-Mairea' and Final Version in order)





### **3.2.5. Studio and Pool**

Two of the most important elements in the Villa Mairea's design process were Maire's studio in the interior and the swimming pool in the exterior, in that they served as location points for the house inside and out respectively. They were transformed in each version. In the case of the studio, it had two types. One could be called the 'submarine' type because the studio almost submerges in the main body of the house except the upper part of it and the tall chimney – it looks like a periscope, to which the Early Version 1 and 2 belong. The other could be called the 'independent' type because its studio is quite independent of the house's main body and almost reveals itself on the outside, to which the Early Version 3, the 'Proto-Mairea' and the Final Version<sup>54</sup> belong. The former has an undulating wall, and a lower floor level but a higher ceiling than the latter. It produces a diversified interior landscape in the main floor with different ceiling heights and the wavy wall. And the wavy wall plays a role of guiding the staircase to the upper floor; of making sufficient length for the staircase; and of enlarging an exhibition area. The latter climbed up to the upper floor and protruded to the west side. Although it lost its former characteristics, it gained others instead. For example, its corners were rounded off and it was given pilotis under its body. Moreover, the studios of the last two versions have their own staircases from the main floor, and entresols within themselves. Particularly, the final studio shaped as a trapezoid like the former courtyard shape has its own balcony around its head.

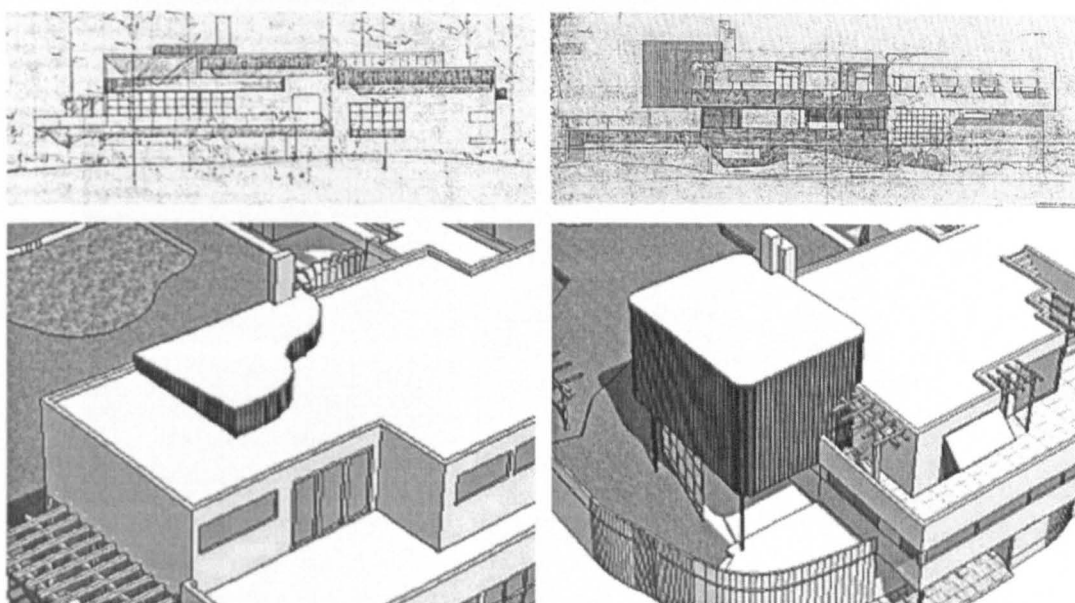
One reason that I focus on the studio is that it symbolises the mistress's significance in the house design. If we compare Maire's space with Harry's through the whole design process, it is evident that Maire's space was valued much more than her husband's. Harry's space, as a counterpart of the Maire's studio (ATELJEE), is a library (KIRJASTO). While the studio had settled in the northwest corner of the house and been dignified, the library changed position

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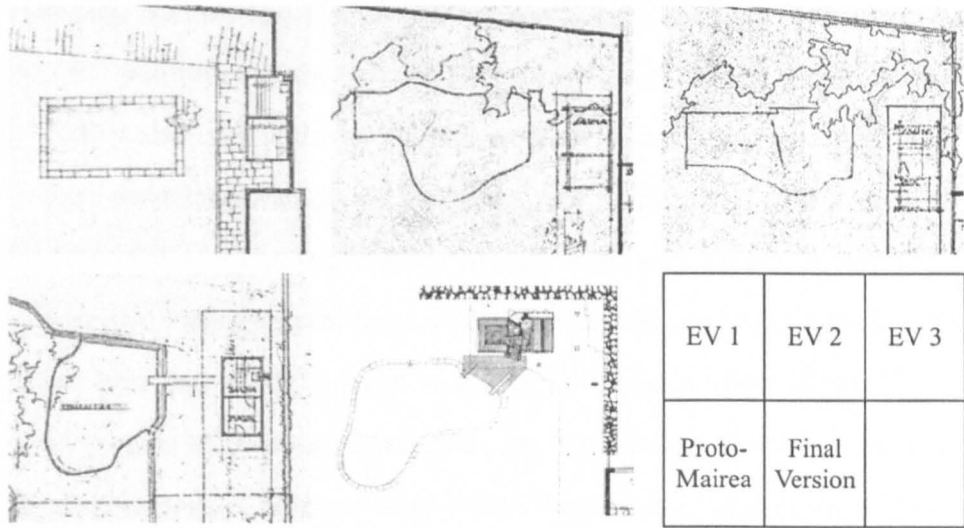
<sup>54</sup> Strictly speaking, the studio of the Final Version is also submerged partly in the west side of the house, but this is not very significant in my view.

here and there for the sake of other spaces – EV 1 to EV 2, southeast to northwest; EV 2 to EV 3, northwest to southeast – and its shape was always a simple rectangle. Furthermore, it faced the danger of almost being discarded in the Final Version. The difference is clearer in the relationship between each space and the surrounding areas. The library had been flexibly openable to a sitting room (OLOHUONE), whereas the studio raised by half or one floor had secured its privacy. And coming to the Early Version 3, the studio was firmly bounded with Maire's bedroom, through which only it was accessible from the interior. What is more, her bedroom of the 'Proto-Mairea' protrudes, breaking the equivalent balance with Harry's of the Early Version 3, which stresses Maire's priority in the house symbolically. Her dignity shown in the studio design is not regardless of the Ahlström family's status in Noormarkku. Although 'the Gullichsens' took over 'the Ahlströms', it is more proper to see that the one was incorporated into the other, and the Ahlström tradition had been flowing down in the town unchangingly. Most of all, the liberalist Harry paid full respect for his liberalist wife. That is why the house was named neither Villa Harry nor Villa Gullichsen, but Villa Mairea.

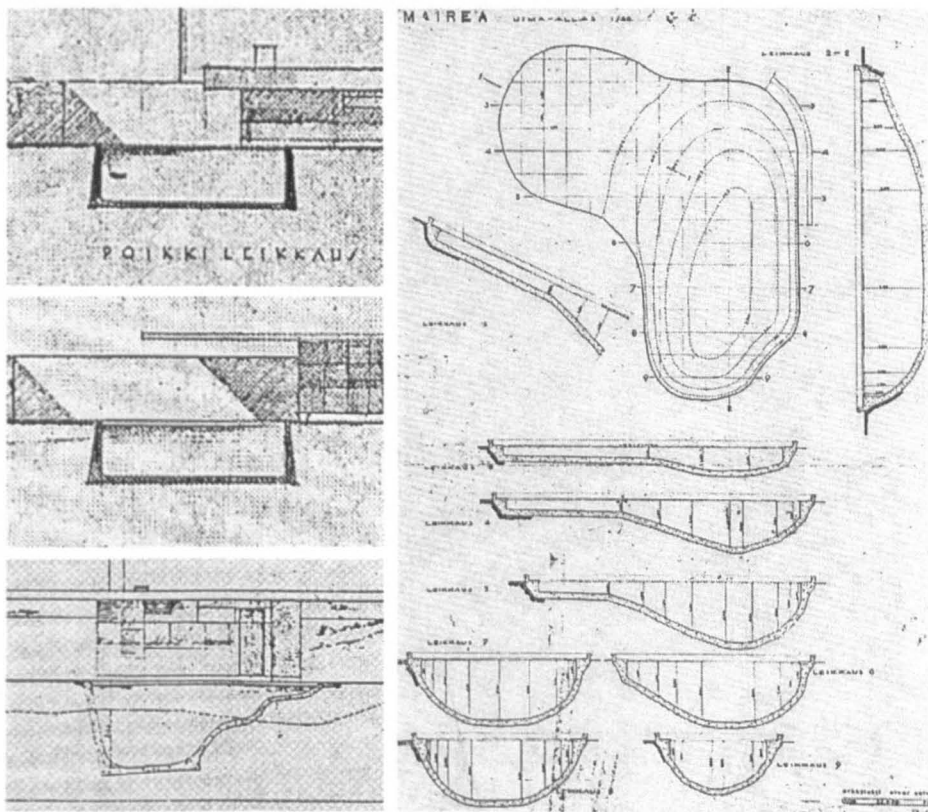
**[Fig. 3-74] Comparison of studio type from front façade and perspective: 'submarine type' (Early Version 2, left) and 'independent type' ('Proto-Mairea', right)**



[Fig. 3-75] Change of pool shape through the whole versions



[Fig. 3-76] Comparison of swimming pool section: Early Version 2 (left top), Early Version 3 (left middle), 'Proto-Mairea' (left bottom) and Final Version (right)



On the other hand, the swimming pool is the most important element in the exterior space. It makes allusions not only to a Finnish lake but also to the Fallingwater stream and American open-air life.<sup>55</sup> Furthermore, the water of the pool is in opposition to the fire of the outdoor hearth,<sup>56</sup> and it also implies one of the four elements with the steam of the sauna.<sup>57</sup> Aalto tried to show naturalness through the swimming pool shape. Although it was rectangular in the first early version, it changed its shape irregularly in every version. Particularly, the pool finally assumed a 'kidney-shaped' form, a shape that became one of the leitmotifs of post-war architecture with the 'candy colours' according to Heinrich Klotz (1984).<sup>58</sup> As already mentioned, the pool shape changed in section, too. The pools of the Early Version 1, 2 and 3 had a rectangular section, whereas those of the 'Proto-Mairea' and the Final Version had a curved section like a naturally occurring pond. The negative contours of the latter could be regarded as counterparts of the terraced courtyard in the 'Proto-Mairea' and the artificial hillock behind the pool in the Final Version. And technically speaking, the natural shape section is more effective in preventing the concrete shell of the pool from cracking, because it was built without a foundation.<sup>59</sup>

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<sup>55</sup> Schildt, G. (1986) *op. cit.* p. 154.

<sup>56</sup> Kim, H. S. (2003) *op. cit.* pp. 83-86.

<sup>57</sup> Poole, S. (1992) 'Elemental Matter in the Villa Mairea'. In Poole, S. (1992) *The New Finnish Architecture*, Rizzoli, New York, pp. 18-27.

<sup>58</sup> Klotz, H. (1988) *The History of Postmodern Architecture*, MIT Press, Cambridge, MA and London, pp. 16-21.

<sup>59</sup> Anon (1940) 'Mairea, House in Norrmark', *Architectural Forum*, June 1940, pp. 401-403, and Fleig, K. (ed.) (1963) *Alvar Aalto: Band I 1922-1962*, Verlag für Architektur Artemis, Zürich, p. 108.

### 3.2.6. Vestige of Fallingwater Impact

In the chapter of the Initial Sketches stage, I described the influence of Fallingwater, focusing on the bold cantilever terraces and stepped plans of the Villa Mairea. Aalto's fascination with Fallingwater was largely indebted to the publications from January 1938. Pallasmaa (1998) gives a detailed account of it.

*Time* magazine published Wright's perspective sketch of the house on its cover on January 17, 1938. In early January 1938 the *Architectural Forum* dedicated an entire issue to Wright's work, with 12 pages devoted to Fallingwater. An exhibition arranged by John McAndrew entitled 'A New House on Bear Run, Penn., by Frank Lloyd Wright' was opened on January 24, 1938 at the Museum of Modern Art. The exhibition consisted of 20 photographs of the house and was accompanied by a short catalogue. Lewis Mumford discussed the exhibition in the *New Yorker* of February 12, 1938.<sup>60</sup>

The influence of Fallingwater on the Villa Mairea, or at least the similarity of the two has been studied since Schildt (1986) mentioned it.<sup>61</sup> Alexander Purves (1989) devoted an essay wholly to the comparison of the two houses, but this is was somewhat speculative.<sup>62</sup> Some critics, such as Weston (1992 and 1995)<sup>63</sup> and Pallasmaa (1998)<sup>64</sup> have also written about it. Following Schildt's opinion, Weston described the bold cantilever terraces and a serpentine basement wall. In a different manner, Pallasmaa pointed out some similarities without focusing on the direct influence of one on the other, such as indentations in both houses' fireplaces, the morphology of Wright's suspended stairs and Aalto's main staircase, allusion to Japanese characteristics, etc.

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<sup>60</sup> Pallasmaa, J. (1998) *op. cit.* p. 78. (note 35)

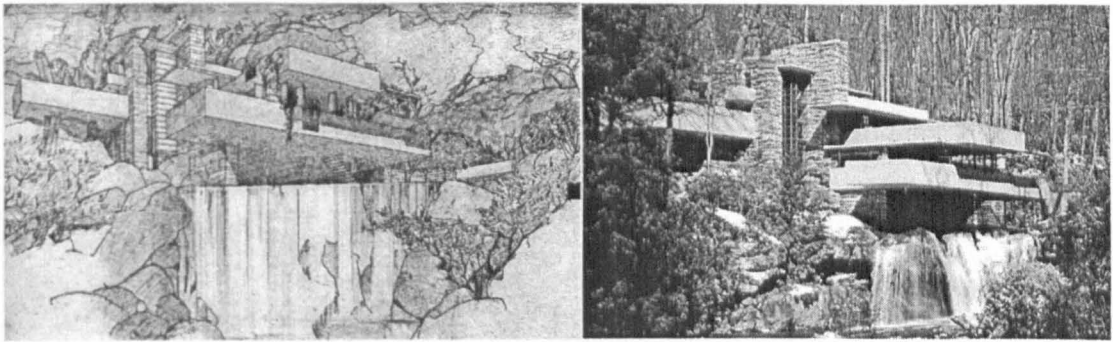
<sup>61</sup> Schildt, G. (1986) *op. cit.* p. 154.

<sup>62</sup> Purves, A. (1989) 'This Goodly Frame, the Earth', *Perspecta* 25, 1989, pp. 178-201.

<sup>63</sup> Weston, R. (1992) *Villa Mairea, Architecture in Detail*, Phaidon, London, and (1995) *Alvar Aalto*, Phaidon, London, p. 81.

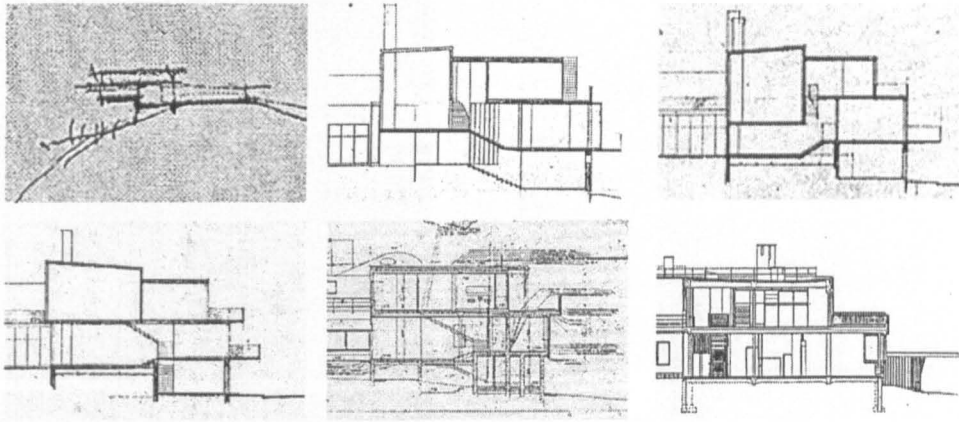
<sup>64</sup> Pallasmaa, J. (1998) *op. cit.* pp. 78-80.

[Fig. 3-77] Fallingwater perspective and photo: The left perspective was published as a cover design for [TIME] in January 1938.

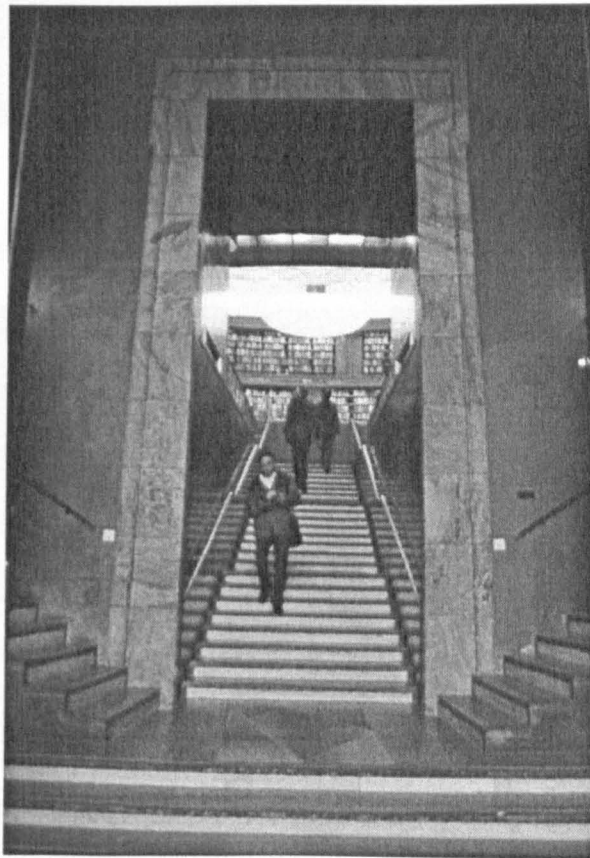


As we saw in all the versions of the Villa Mairea, the bold cantilever terrace concept, the most influential factor, decreased by degrees and almost disappeared in the Final Version. There were two main design moves weakening the cantilever effect. The first was when the main floor terrace was removed in the 'Proto-Mairea'. Even if the upper floor terrace was projected beyond the main floor wall line instead, it could not compensate for the loss of the main terrace. The second design move was when Aalto got rid of the basement in the Final Version, which meant the total abandonment of the cantilever terrace concept. Nonetheless, Aalto did not forget inscribing the memory in a different way in a different place. That is the balcony around the head of the studio, which is an interesting vestige of the bold cantilever terrace. The loss of the basement was far more significant than just raising the terrace height, for it had produced the complicated interior level changes. In addition, it offered the concept of 'entering by climbing'. This concept was not unfamiliar to Aalto, because it is also found particularly powerfully in Asplund's Stockholm City Library (1920-28) as well as Aalto's own Workers Club (1924) and Viipuri Library (1927-35). It seems, however, that Fallingwater's suspended staircase must also have given Aalto a strong impression. Although the staircase is not a main route, the Bear Run River and the ground floor terrace are connected in Fallingwater through it.

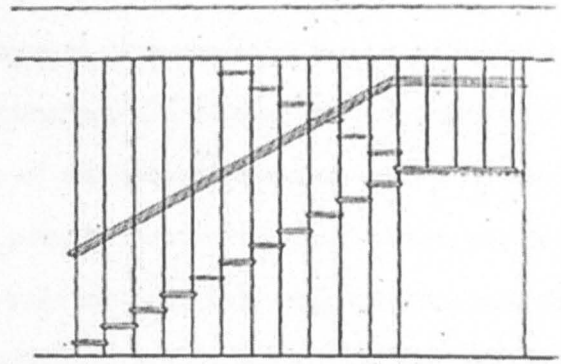
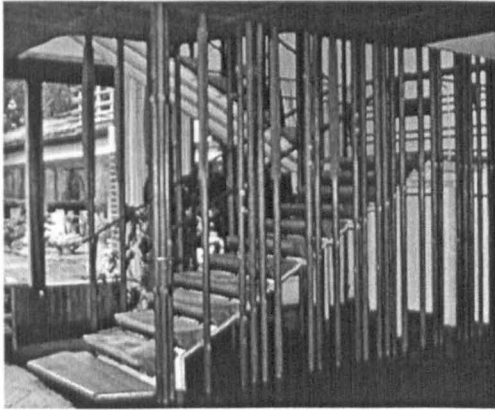
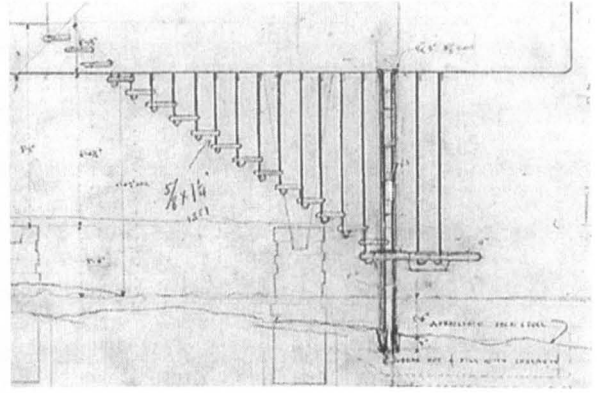
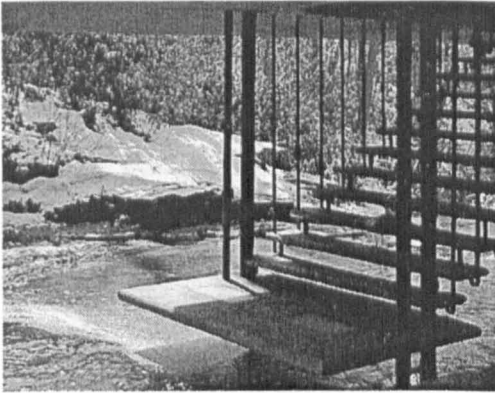
[Fig. 3-78] Change of terrace section: an early sketch, EV 1, 2 and 3, 'Proto-Mairea' and Final Version (from left to right and from top to bottom)



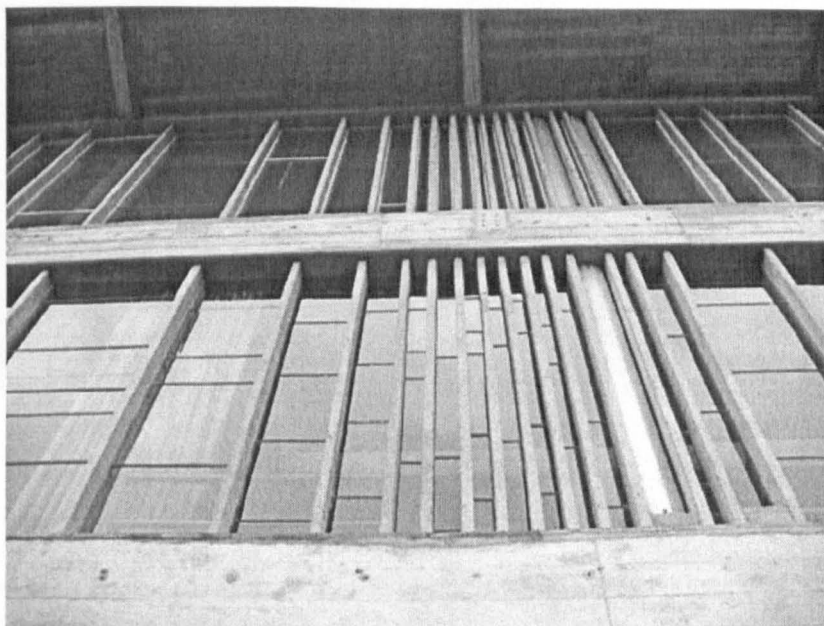
[Fig. 3-79] Stockholm City Library designed by Asplund, 1920-28: view from entrance towards reading room



[Fig. 3-80] Stockholm City Library designed by Asplund, 1920-28: view from entrance towards reading room



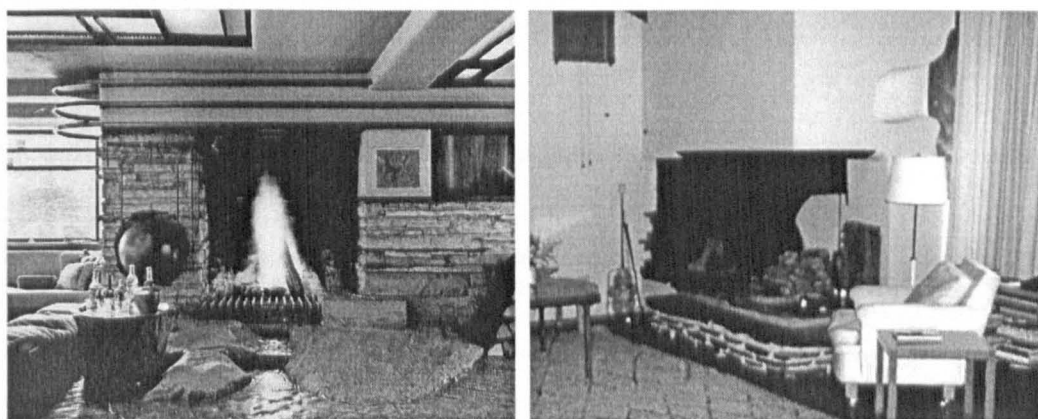
[Fig. 3-81] 'Ondulatoires' of La Tourette by Le Corbusier, 1953-57





Even though the concept of ‘entering by climbing’<sup>65</sup> was discarded, Wright’s staircase directly influenced Aalto’s main staircase design in its shape. We can notice it clearly in Aalto’s earlier sketch (84/316). As in Wright’s, each riser has two vertical rods at regular intervals, and the first tread is much larger than others. In spite of this morphological similarity, Aalto’s staircase turned out to be different from Wright’s in several points. Firstly, the vertical poles of Aalto’s final staircase stand randomly, expelling the artificial rhythm of Wright’s. This randomness has an affinity with ‘*ondulatoires*’<sup>66</sup> of La Tourette (1953-57) by Le Corbusier. Secondly, Aalto’s poles are sleekly finished wood, but Wright’s vertical members are much thinner steel rods. Thirdly, while Wright’s stairs are really suspended by the steel rods, Aalto’s stairs are supported by steel frames underneath. It means that Aalto’s vertical members are decorative rather than structural. On the other hand, the indentation of the Villa Mairea fireplace is reminiscent of the hemisphere-shaped carving of that at Fallingwater. The former does not have any particular function, whereas the latter is fit for the sphere kettle that can be boiled on fire and keep heat in the indentation revolving each side. And the swimming pool of the Villa Mairea alludes to the Bear Run River of the Fallingwater.

[Fig. 3-82] Fireplace indentation: Fallingwater (left) and Villa Mairea (right)



<sup>65</sup> One interesting difference between them is that the first purpose of Aalto’s basement staircase is ‘ascending’ while that of Wright’s suspended staircase is ‘descending’.

<sup>66</sup> ‘Unevenly spaced concrete mullions’ of La Tourette was called ‘*ondulatoires*’. Curtis, W. J. R. (1986) *Le Corbusier: Ideas and Forms*, Phaidon, London, p. 184.

### 3.2.7. Modular Coincidence or Hidden Geometry?

Without waiting, passively, for repetitions to impress or impose regularities upon us, we actively try to impose regularities upon the world (Popper, 1965)<sup>67</sup>

Since the Renaissance pioneer Leon Battista Alberti (1404-72)<sup>68</sup> or even earlier,<sup>69</sup> architects have tried to apply to their buildings an ideal proportion, whether it is from the measure of the human body or from geometrical orders that ancient philosophers discovered. That is to say, they (wanted to) believed that a mathematical or geometrical order could bring about eternal beauty to their architecture or at least that the universal harmony could be represented in buildings. For this reason, 'proportion' has been a significant factor in architecture – plan, section and façade.<sup>70</sup> In modern architecture, this belief was still kept, or even further elaborated by Le Corbusier. In his essay with Amadée Ozenfant (1886-1962), 'Le Purisme' (1920), he clearly manifested this issue:

The modular method is the only sensible way of bringing about order; it lets the smallest element measure the largest (give or take the necessary corrections and optical illusions); it provides what the old masters called proportion.<sup>71</sup>

And coming to [Le Modulor] (1950), Corbusier completed his *Modulor* system, a universally

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<sup>67</sup> Popper, K. (1965) *Conjectures and Refutations*, Routledge & Kegan Paul, London. Cited in Padovan, R. (1999) *Proportion: Science, Philosophy, Architecture*, E & FN Spon, London, p. ii.

<sup>68</sup> Alberti, L. B. (1988) *On the Art of Building in Ten Books*, MIT Press, Cambridge, MA

<sup>69</sup> Here, I bear in mind particularly the Roman architect Marcus Vitruvius Pollio (BC 1<sup>st</sup> century).

Vitruvius wanted to raise architecture to the level of scientia or knowledge, and the best way to achieve this was by showing that it was a fundamentally mathematical art.

Onians, J. (1988) *Bearers of Meaning*, Princeton University Press, p. 33. Cited in Padovan, R. (1999) *op. cit.* p. 156.

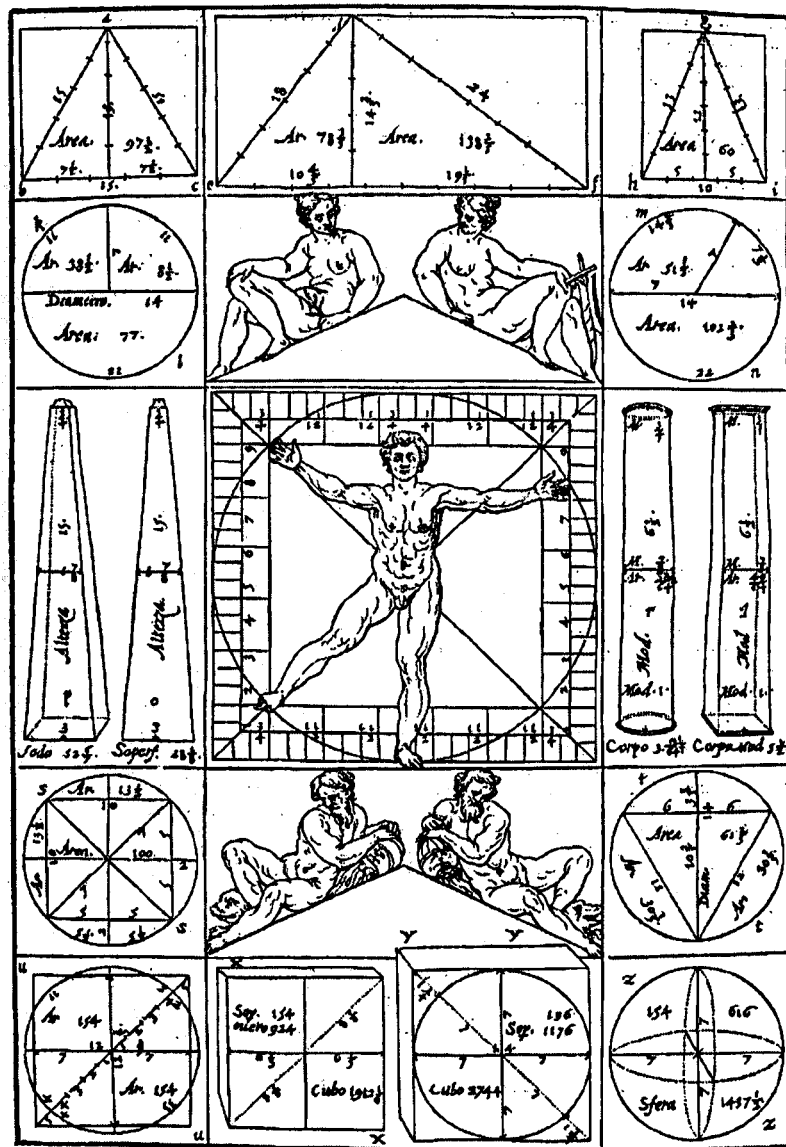
<sup>70</sup> Concerning the discussion about proportion in science, philosophy and architecture, see Padovan, R. (1999) *op. cit.*

<sup>71</sup> Le Corbusier and Ozenfant, A. (1920) 'Le Purisme', *L'Esprit Nouveau*, no. 4, pp. 369-386.

Republished in Herbert, R. L. (ed.) (1964) *Modern Artists on Art*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, pp. 58-73.

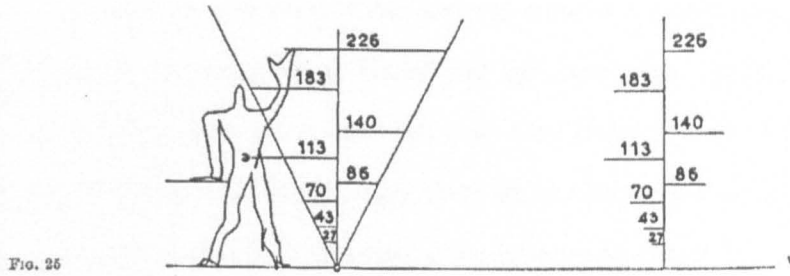
applicable 'measuring tool based on the human body and on mathematics'.<sup>72</sup> According to the introduction to the second edition of the book (1951), the Modulor had spread quickly throughout the world and been recognised by architects everywhere. Whether the situation was exaggerated or not, the Corbusian tool made architects and critics more apt to search for a hidden geometry from buildings and interpret them on the basis of it.

[Fig. 3-83] The ideal proportions of the human body, and basic geometrical forms by Vincenzo Scamozzi (1548-1616)



<sup>72</sup> Le Corbusier (1954) *The Modulor*, Faber and Faber, London, p. 55.

[Fig. 3-84] Le Corbusier's *Modulor* on the basis of human body and mathematics



They may be drawn as follows:

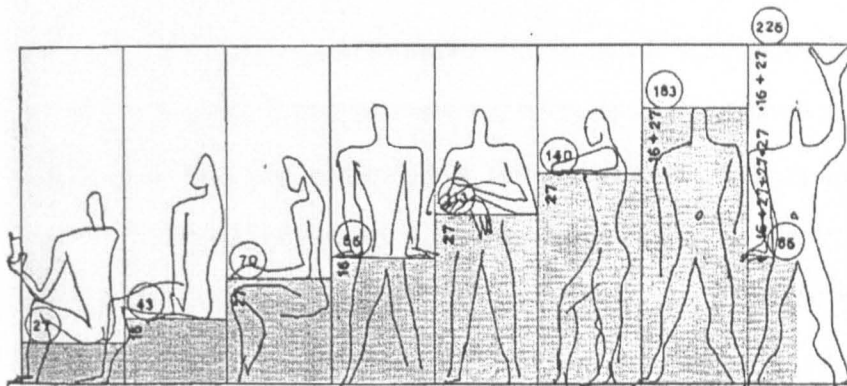


FIG. 26

This kind of interpretation and a presumable 'rational' starting point of design illuminate some aspects of the approach in the Villa Mairea. But it is yet inadequate. Structural expression, for example, is far from consistent and the column grid is deliberately camouflaged. In addition, the identity of the floor slab had been completely suppressed during the design process. In spite of this discouragement to rational analysis, the interpretation of the building has been haunted by a notion of an underlying geometrical frame. It seems that some of Frampton's students believed an ordering principle of the square in the Villa Mairea plan (Quantrill, 1983),<sup>73</sup> and Pallasmaa (1998) analysed it in detail with a plausible illustration.<sup>74</sup> What is more, Kari Jormakka *et al* (1999) developed a similar analysis on the basis of the width of the sauna steam room.<sup>75</sup> Among them, Pallasmaa has presented the idea most coherently. Maybe,

<sup>73</sup> Quantrill, M. (1983) *Alvar Aalto: A Critical Study*, New Amsterdam Books, New York, p. 90.

<sup>74</sup> Pallasmaa, J. (1998) *op. cit.* pp. 80-81.

<sup>75</sup> Jormakka, K. et al (1999) *The Use and Abuse of Paper: Essays on Alvar Aalto*, DATUTAP 20,

the most interesting thing of his analysis is an axial band from the entrance through the dining room to the sauna terrace. He admits that this does not work as a visibly spatial continuity, for the band is broken by the block of fireplaces, and the route plays against it. But that was perhaps the point. Crucially, the presence of this axial band is supported by the evidence of the design development (see Fig. 3-72). However, there are more aspects that I cannot agree with. Here, I add my opinion challenging Pallasmaa's 'modular coincidence'.<sup>76</sup>

Although Pallasmaa is tentative about offering this interpretation – he does write of 'coincidences' – and admits that it countermands Aalto's stated disdain about modules,<sup>77</sup> his analytical drawing (Fig. 3-85) does appear as a key to the building and at first sight it seems convincing. It rests on three assumptions: first, that the patterns are there and not merely imposed *a posteriori* by the analyst; second, that if they are there, they are the driving idea; and third, that architectural aesthetics depend on some subliminal sense of harmony prompted in the observer by such underlying geometries. All three can be challenged. As regards the first assumption – that the order is present – we must note that some lines do not quite fit. For example, the longitudinal load-bearing walls of the servant wing deviate from his guidelines, and the width is a little wider than the module. And it is questionable that Aino adjusted the skewed library wall to the hidden module system when she enlarged the space later (1941) – he should have used the original drawing (1938) not later one. If the library had not been enlarged, one would try to adjust the wall line to another datum. Furthermore, Pallasmaa allows himself a shift in module, and some diagonals – e.g. library wall, studio wall and entrance bent wall – can be aimed through quite an arc. If his system were in use, one would expect more to be aligned on it, and it is strange that it does not appear to involve the structural grid, a crucial and necessary piece of imposed ordering. Regarding the second

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Tampere University of Technology. Tampere, pp. 48-49.

<sup>76</sup> I owed this analysis a lot to Professor Peter Blundell Jones.

<sup>77</sup> I confirmed again through conversations with Pallasmaa that he does not regard his drawing of 'modular coincidence' as a decisive one. But it is true that the drawing in his article strongly argues its significance. Author's interviews with Juhani Pallasmaa in Stockholm, Sweden on May 8, 2003, and in Jyväskylä, Finland on August 2, 2003.

assumption – that such geometries are the driving idea – the most remarkable piece of supporting evidence is the length of service wing that doubles the square. But this might simply be due to choice of initial dimensions – for architects must choose dimensions when they draw up hard for the first time, and tend to go for round numbers in whichever scale they are using. Doing this, Aalto could have chosen the same dimension twice in different axes, which makes a square. Nonetheless, there is little point in putting squares around the sauna and the terrace. As regards the third assumption – that aesthetic pleasure is the result of underlying harmonies – this persistent idea seems to derive from the Modulor and a general obsession with hidden geometries (see Fig. 5-117 and 118). However, there are several problems here. Even Le Corbusier did not use the Modulor himself except as a corrective tool at the end.<sup>78</sup> Despite the advocacy of such powerful personalities as Einstein: ‘It is a scale of proportions which makes the bad difficult and the good easy’,<sup>79</sup> his comment on the Modulor might be ‘something wider and more all-embracing than aesthetics’,<sup>80</sup> and it does not seem to work for others. And after a period of enthusiasm in the 1950s,<sup>81</sup> it was not taken up widely by other architects and is little used today. Part of the reason for this is that it is terribly constraining as a method, and there are many competing reasons for choice of dimension in components. Also there is doubt as to whether the effects are visible beyond rather limited conditions. Proportions may be appreciated when looking directly, at windows or doors, for example, but it is quite another task to assess them while walking through the whole plan. But despite all these objections, there seems to be a strong and persistent desire to seek out such ‘hidden geometries’ against the evidence. Rather than for a ‘universally applicable’ rule,<sup>82</sup> I

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<sup>78</sup> Padovan, R. (1999) *op. cit.* p. 332.

<sup>79</sup> Einstein’s letter to Corbusier after their meeting in Princeton in 1946. Cited in Le Corbusier (1954) *op. cit.* p. 58.

<sup>80</sup> Padovan, R. (1999) *op. cit.* p. 2.

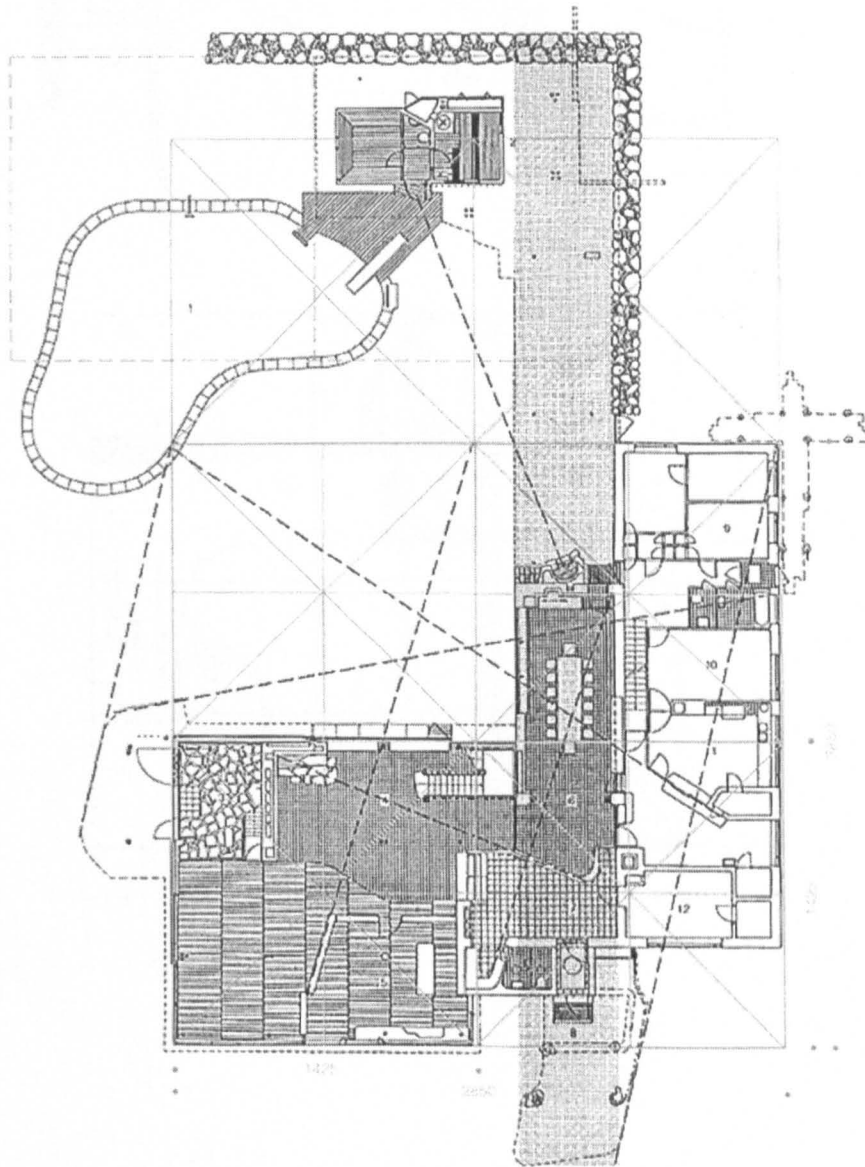
Note that Einstein did not say ‘bad design’ and ‘good design’: simply ‘*the bad*’ and ‘*the good*’. He had in mind something wider and more all-embracing than aesthetics: a moral goodness, or even a cosmological one, of which the visual appearance of a work of art was no more than the outward sign.

<sup>81</sup> Concerning exhibitions and meetings regarding ‘proportion’, see the introduction of Le Corbusier (1954) *op. cit.* pp. 5-6.

<sup>82</sup> Note that the subtitle of Le Corbusier’s [The Modulor] is ‘A Harmonious Measure to the Human

would cast my vote for sensitive consideration of the context in each case. Even if the plan from each context does not contain 'golden sections' nor follows a seemingly universal law, it does not mean that it is out of order or not beautiful. In reverse, it could be more functional owing to the sincere adoption of the content, and more natural because of the active reflection of the situation. Isn't it real beauty in architecture? I believe that Aalto did so.

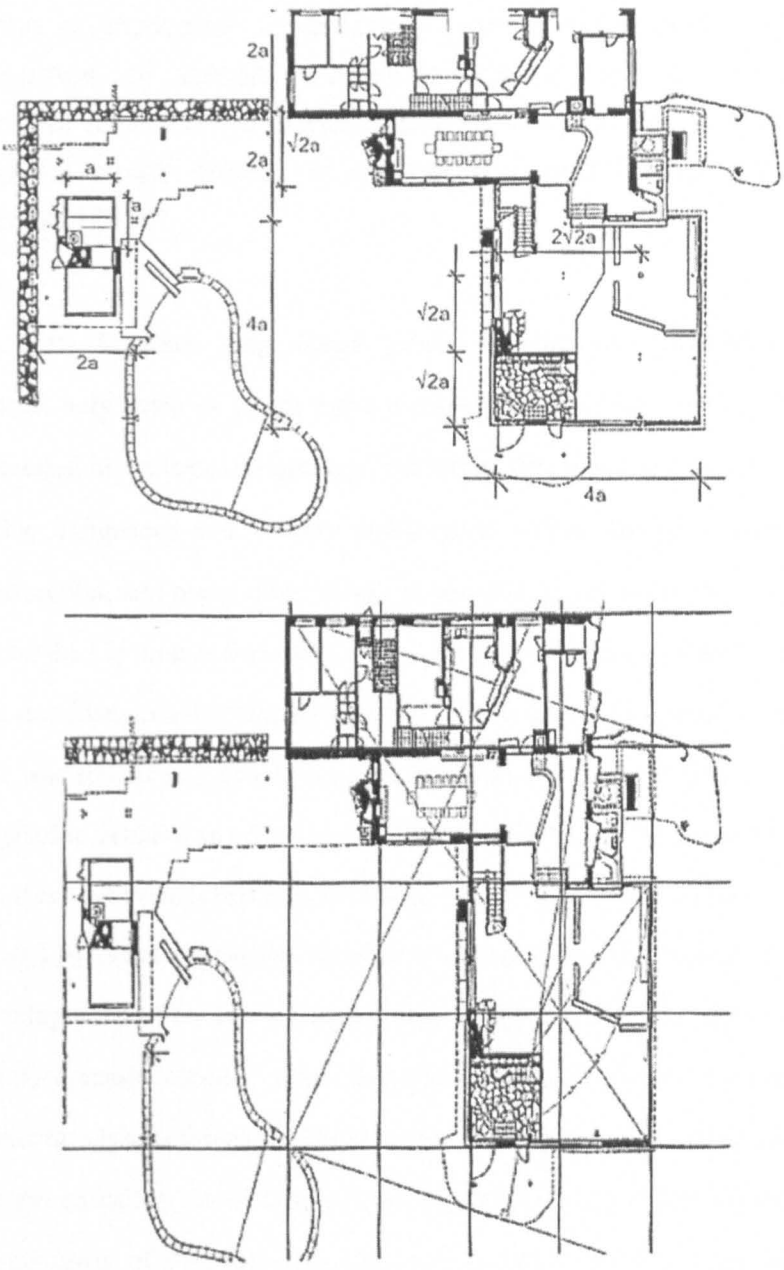
[Fig. 3-85] Geometrical analysis of the Plan by Pallasmaa, 1998



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Scale, Universally applicable to Architecture and Mechanics'.

[Fig. 3-86] Geometrical analysis of the Plan by Jormakka *et al*, 1999: The right bottom drawing was originally distorted in Jormakka et al (1999).





### 3.3. Value of Pencil Stroke

A set of crude, incomplete and imperfectly formed drawings can aid in the crystallization of a formal concept. Because the interactive sequence of sketch representations records a mental schema peculiar to each individual architect, a study of such drawings can help to unveil modes of conception and formal preconception. (Hewitt, 1989)<sup>83</sup>

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, 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. 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. Undoubtedly many of the earlier design versions, if built, would have resulted in fascinating and original buildings, but the final work is perhaps only recognised as such a

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<sup>83</sup> Hewitt, M. A. (1989) 'The Imaginary Mountain: The Significance of Contour in Alvar Aalto's Sketches', *Perspecta* 25, pp. 163-164.

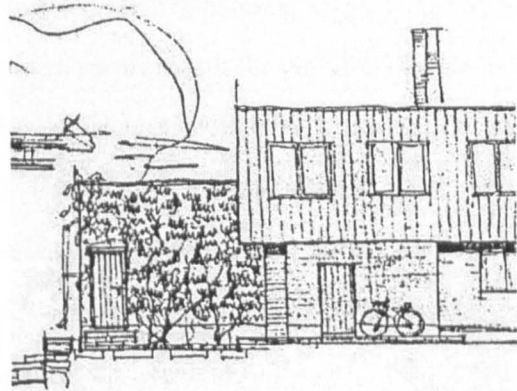
masterpiece because it is the crystallisation of the long exploratory process.

Aalto's sketches of the design process suggest to us another additional lesson, that is, the value of a 'stroke of a pencil'. Karl Fleig (1971), Aalto's assistant and co-editor of [Alvar Aalto] series books, described: 'Every project is elaborated by Aalto alone with countless sketches, ranging from purely conceptual drawings and designs to recognizable details.'<sup>84</sup> And as Hewitt implied, the sequence that incomplete and rough lines become crystallised and refined also shows the architect's design concept and mental schema. It is possible because the crude lines of sketches have a power to keep the memories, just as an egg grows up to a mature trout. Only through the sketches could I retrieve the lost memories of the Villa Mairea.

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<sup>84</sup> Fleig, K. (1968) 'The Architect in his Workshop'. In Fleig, K. (ed.) (1971) *Alvar Aalto: Band II 1963-70*, Verlag für Architektur Artemis Zürich, p. 9.

## **Chapter 4. Precursors for Villa Mairea**



*Nothing that is old can be reborn. But nor will it  
disappear entirely. And that which once was,  
always returns in some new forms.  
Alvar Aalto, 1921 (Schildt, 1997, p. 32)*

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## Chapter 4.

### Precursors for Villa Mairea

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The Villa Mairea is incomparably significant in Aalto's whole career because we could perceive not only what he had developed in his design up to then but also with hindsight what he would create in his later works. It means that a number of ideas in his former and later designs were frequently coming and going in this experimental laboratory and hence that this project is representative of his architectural development procedure. Nonetheless, it is true and even fascinating that we can read a direct or indirect influence of and an interesting affinity with other houses before the Villa Mairea. I want to call them 'precursors' in this thesis. In the previous chapters, I mentioned some houses – especially the former Ahlström family mansions and Wright's Fallingwater – that had a great influence on the Villa Mairea. Besides them, however, there are also several other houses that were deeply related with it whether directly or indirectly. Among them, Gallen-Kallela's studiohouse at Ruovesi is important because of its connoting concerns of *Karelianism* and Finnish national identity. Aalto's house in Munkkiniemi can be regarded as his own immediate precedent for the Villa Mairea. Indeed, Aalto could develop ideas further through the Gullichsens' villa, which he was not able to exploit fully in his relatively modest house. Undoubtedly, Aalto learned much from his Swedish contemporary Asplund and his houses, and Gullichsens' former residence was directly related with the new house in several ways. A study of these houses will help us to better understand the Villa Mairea within its architectural context.

#### 4.1. Finnish National Identity and Beyond: Gallen-Kallela's Kalela at Ruovesi, 1891-95

Surely you remember how the yeomen have designed their houses. ... Always a large parlor built of pinewood logs in which the walls, even when old, have preserved their warm, yellow coloration. Many windows at all sides and a large fireplace plastered white at the end of the room next to the door. Just imagine how a parlor like that could be decorated into a wonderful room. The windows can be covered however one wishes in order to obtain whatever lighting effect one desires. In this way [these rural parlors] are ideally suited for use as ateliers. (Gallen-Kallela, 1888)<sup>1</sup>

Akseli Gallen-Kallela (Axel Waldemar Gallén in Swedish) (1865-1931) is called 'the renaissance man of Finnish art'.<sup>2</sup> Indeed, he left lots of arts works including 6000 drawings and 2000 paintings over his whole life (Treib, 1975),<sup>3</sup> and many of them imply Finnish national identity and *Karelianism*. The term *Karelianism* was coined by the folklorist Yrjö Hirn (1939) for a Karelian cultural renaissance between 1890 and 1900, when 'almost all young Finnish artists, musicians, and writers travelled to the mystical Finno-Russian borderland to seek inspiration from this mystical region's landscapes and culture.'<sup>4</sup> Behind this trend was a Finnish national epic, *Kalevala* (first edition in 1835 and enlarged edition in 1849), made up of folk tales which Elias Lönnrot collected in Karelian districts<sup>5</sup> and

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<sup>1</sup> A letter from young Gallen-Kallela (23 years old) to his fiancée Mary Slöör when he studied in Paris. Cited in Gallen-Kallela-Sirén, J. (2003b) 'Kalela: The Cradle of Axel Gallén's Art and Modern Finnish Design', *Kalela* [online], The Kalela Museum. Available from: <http://www.kalela.net/Akseli%20Gallen.htm> [Accessed 28<sup>th</sup> January 2004].

<sup>2</sup> Gallen-Kallela-Sirén, J. (2003a) 'Akseli Gallen-Kallela: The Renaissance Man of Finnish Art, 1865-1931', *Kalela* [online], The Kalela Museum. Available from: <http://www.kalela.net/Akseli%20Gallen.htm> [Accessed 28<sup>th</sup> January 2004].

<sup>3</sup> Treib, M. (1975) 'Gallen-Kallela: A Portrait of the Artist as an Architect', *AAQ* VII, no. 3, September 1975, pp. 3-13.

<sup>4</sup> Gallen-Kallela-Sirén, J. (2003a) *op. cit.*

<sup>5</sup> Singleton, F. and Upton, A. F. (1998) *A Short History of Finland*, Cambridge University Press, Cambridge, p. 71.

There were four main areas which provided the raw material for Lönnrot's various compilations – Archangel Karelia, between the White Sea and the Russo-Finnish border, ... ; Olonets Karelia and Ladogan Karelia, further to the south; and Inkeri (Ingria), around

compiled. To Finns, who had been under the rule of Sweden and Russia for a long time,<sup>6</sup> the Kalevala became a source of cultural and political nationalist inspiration, and Snellman's slogan of 1860s no doubt represents the Finns' self-awareness best: "Swedes we are not; Russians we cannot become. Let's be Finns."<sup>7</sup> If there was Sibelius in music and Leino in literature, it was Gallen-Kallela in painting who reflected Finnishness most clearly. Gallen-Kallela's most significant design works were produced during the stay in Kalela<sup>8</sup> (especially between 1895 and 1898 according to Treib), which are, for example, 'furniture design, prototypes for industrial design, glass paintings, etchings, woodcuts, nationalist posters' (Lane, 2000).<sup>9</sup> The versatility of the artist parallels him with England's William Morris, and actually Morris's influence on Gallen-Kallela and Finnish art was enormous.<sup>10</sup> For example, in his sketchbook for the Kalela design, he even wrote: 'Morris for the bedroom ... Morris for the toilet' (Gallen-Kallela- Sirén, 2003b).

Kalela was designed as Gallen-Kallela's studiohouse by himself. As a two-story log house with a pitched roof, it was sited amid a pine forest on a promontory surrounded by Lake Ruovesi, 193 km northwest of Helsinki. An early sketch, probably conceived in 1891 during

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the head of the Gulf of Finland.

<sup>6</sup> Finland had been under Swedish rule up to 1809, when she became an autonomous Grand Duchy within the Tsarist Empire. *Ibid.* p. 61.

<sup>7</sup> The slogan 'has been wrongly attributed to A. I. Avidsson' according to Menin. Menin, S. (2001) 'Fragments from the forest: Aalto's requisitioning of forest place and matter', *The Journal of Architecture*, vol. 6, Autumn 2001, pp. 279-305 (note 34). And Treib (1975) also did. Singleton quoted more literary style of it: 'Finland was an entity by itself which could no longer become Sweden and ought never to become Russian. In other words, we felt that we were Finns, members of the Finnish nation.' Singleton, F. and Upton, A. F. (1998) *op. cit.* p. 72.

<sup>8</sup> According to Gallen-Kallela-Sirén, he stayed there first from 1895 to 1901, briefly in the summer of 1905, and between 1915 and 1921. See Gallen-Kallela-Sirén, J. (2003b) *op. cit.*

<sup>9</sup> Lane, B. M. (2000) *National Romanticism and Modern Architecture in Germany and the Scandinavian Countries*, Cambridge University Press, Cambridge, p. 345 (note 47).

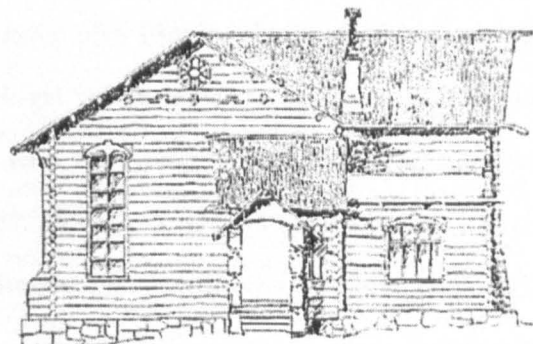
<sup>10</sup> At that time, the influence of Morris and the English Arts and Crafts Movement was prevalent in Finnish art circle, especially through the design periodical [The Studio: An Illustrated Magazine of Fine and Applied Art], and in fact he is the man who 'almost single-handedly' imported the movement to Finland in 1890s. See Gallen-Kallela- Sirén, J. (2003b) *op. cit.* In this sense, there are interesting parallels between Kalela, Red house and Villa Mairea. About the comparison of Morris' Red house and Aalto's Villa Mairea, 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 20<sup>th</sup> EAAE Conference*, Stockholm-Helsinki, pp. 83-86.

his honeymoon to Karelia, clearly followed the Karelian log houses in style despite the Ostrobothnian *aitta* (storehouse) element (Treib, 1975). However, it was transformed into a more personalised and elaborated type four years later.

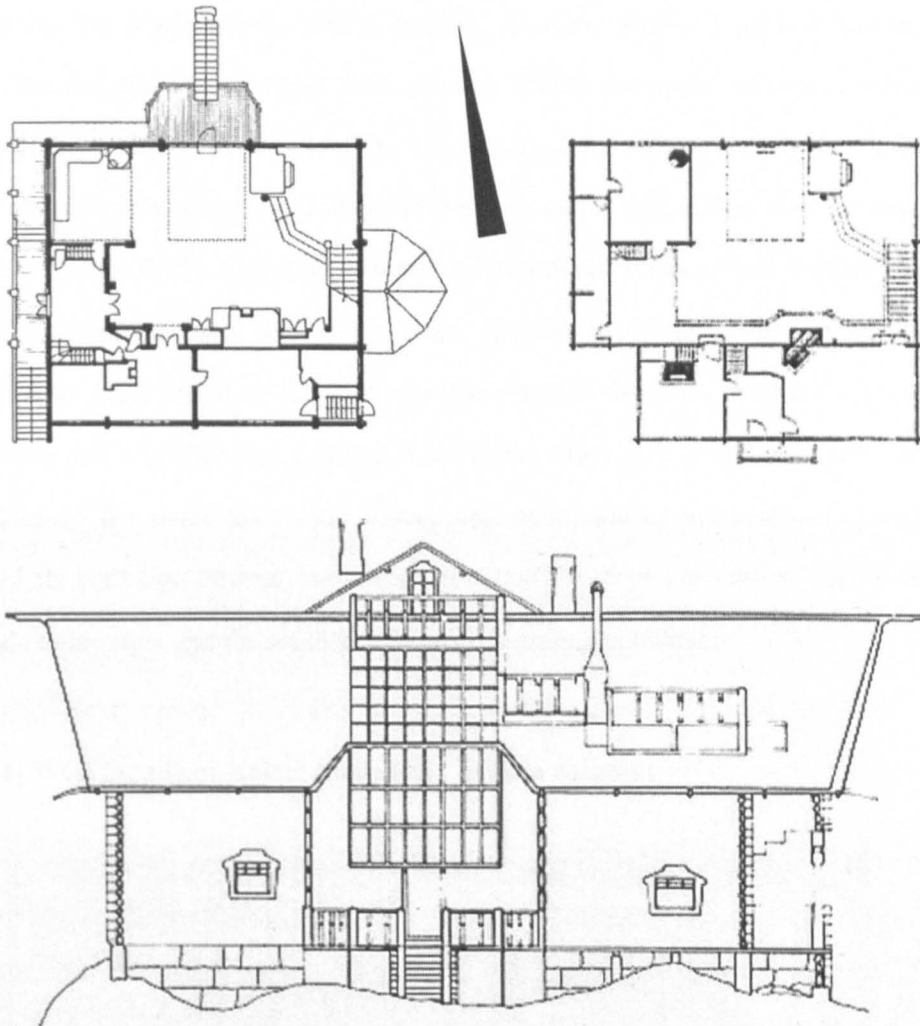
[Fig. 4-1] ‘The Defence of Sampo’, one of mythological Kalevala paintings, painted in Kalela, 1896



[Fig. 4-2] Karelian House in Seurassari Open-air Museum, Helsinki (left) and early sketch for Kalela (right)



[Fig. 4-3] Gallen-Kallela's studiohouse Kalela at Ruovesi, 1891-95: main floor plan (left), upper floor plan (right) and north elevation (bottom)

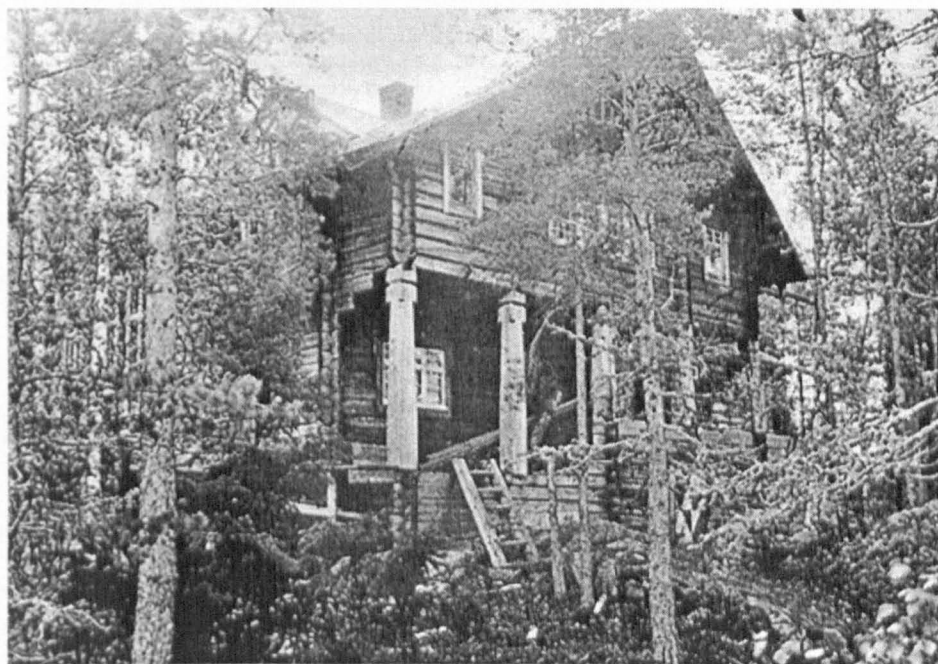


It is quite large in size with a rectangular ground plan 18m by 16m with a gable as high as 13m (Gallen-Kallela-Sirén, 2003b). We can get to the entrance of the west side via the colonnade parallel with the lake or through the balcony in the north side. The colonnade is stepped in the middle following the topographical context, and dominated by five carved log columns that allude both to vernacular craftsmanship and to the Doric column (Fig. 4-11 and 12). Coming through the entrance, we face a large studio living room, which is the centre of the house in the sense that one can again access to every room from it, as well as that it



occupies over half the area of the ground plan. The studio living room has many unique characteristics. First, it is dominated by a huge window in the north wall and roof that brightens up the whole interior space. Second, it is two stories high and has an interior balcony that functions as an upper floor passage. Third, the upper balcony can be reached through a main staircase of the east side, which starts from a three step raised platform. The raised floor was proposed for music performance,<sup>11</sup> but in fact it was also the result of the rock below (Treib, 1975). Like most vernacular farmhouses, it has a focal fireplace, but it was artistically carved in parts with wavy lines. On the other hand, this living room was surrounded by other rooms to the south and the west. In the main floor are a library at the north corner and a kitchen and a dining room in the south side, while the upper floor has a guest room to the north above the library and bedrooms to the south. The upper floor protruded its wall line beyond the main floor, that is, there are narrow rooms above the colonnade to the west and the south side bedrooms make a cantilever.

**[Fig. 4-4] West façade of Kalela that shows 'Kalela columns'**



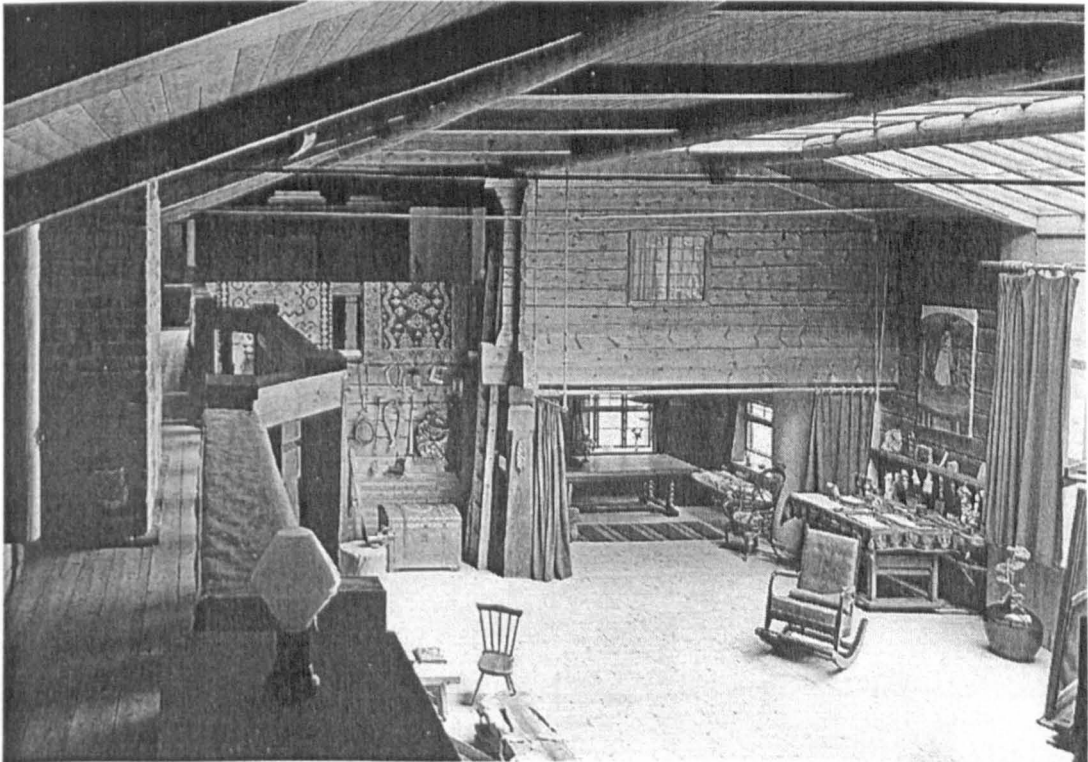
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<sup>11</sup> According to Treib (1975), his wife Mary would often play the organ on it, and his close friend Jean Sibelius might play frequently.

[Fig. 4-5] Kalela's south façade and view from Lake Ruovesi

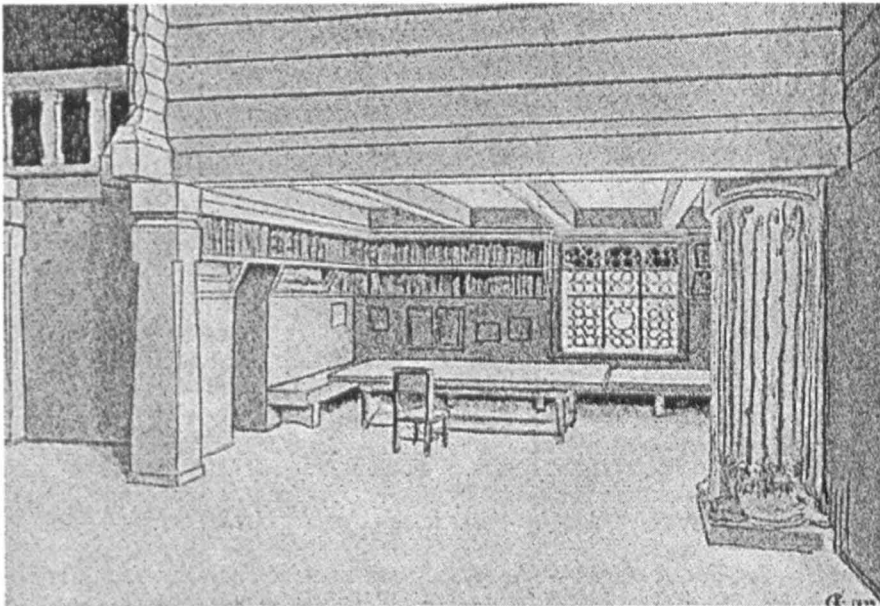


[Fig. 4-6] Different view of Kalela studio living room: from stairs to library (top) and from library to fireplace and stairs (bottom)





[Fig. 4-7] Drawing of Kalela library



According to Gallen-Kallela-Sirén (2003b), Kalela is often misunderstood as ‘Finland’s first “national romantic” building’.<sup>12</sup> Opposing to the conventional view, however, he emphasises the neoclassical characteristics of Kalela rather than ‘nationalistic’ and ‘romantic’ elements,

<sup>12</sup> Gallen-Kallela-Sirén (2003b) *op. cit.*

for which he presents the simple façades and elimination of decoration as the evidence. In other words, he argues that Karelian wood ornamentation and structure in the early sketches disappeared in final drawings, which instead assume 'noble simplicity and calm grandeur'.<sup>13</sup> Indeed, it is true that the 'Kalela-column', a term he coined, makes the west façade look like a classical Greek temple with the triangular gable as he stresses. Nevertheless, his strong emphasis on the 'presumable' universality threatens to abolish the regional or vernacular characteristics wholesale along with the problematic term 'National Romanticism'.<sup>14</sup> And the asymmetrical layout in plan and façade taints the authenticity of the classicist view. No matter how much the élite artist Gallen-Kallela made of the neoclassical value in the design, we cannot easily erase the image of the Finnish vernacular buildings from the craftsmanship of log construction, the spatiality of the large living room, the significance of the white-washed fireplace, and so on. Rather, we had better say that he fused the national identity with the contemporary internationalism – *i.e.* neoclassicism – effectively.

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<sup>13</sup> With the Winckelmann's famous phrase, he parallels Kallela with the neoclassical designs by Claude-Nicolas Ledoux and Étienne-Louis Boullée.

<sup>14</sup> Against the misleading label 'national romanticism', the Swedish historian Björn Linn had used the term 'national realism' that was first suggested by Bengt Romare in 1950. But further reflection made Linn believe that rather than 'national', materials and workmanship is important in architectural expression. From this insight, he began to use the term 'material realism' in 1990s. Linn, B. ([linn.linn@swipnet.se](mailto:linn.linn@swipnet.se)) (22 February 2005) *Re: 'National Realism' or 'Material Realism'?* Personal email to H.S.Kim ([arg00hsk@sheffield.ac.uk](mailto:arg00hsk@sheffield.ac.uk)). Following Linn's line, Blundell Jones describes the paradox of the label 'national romanticism' and introduces Linn's new term.

Like many all-embracing art historical terms, National Romanticism is too broad in its coverage and also somewhat prejudicial in its associations, but it has become the recognised term and is therefore difficult to dispense with. It was not the chosen designation of those involved but was applied later, and not without a pejorative ring. The later excesses of the dictators have left every kind of nationalism (or regionalism) suspect, and in the age of science, 'romantic' has often meant irrational or self-indulgent: the term 'Expressionist' has attracted similar disdain: 'an escape out of reality into a fairy world', as Pevsner put it. 'Romantic' in opposition to 'Classical' makes some sense, for certainly there was a departure from using classical models and more generally there was a breaking of conventions and norms. ... The deep paradox of National Romanticism is that it was thoroughly international, for it spread right across Europe from Finland to Hungary, and although its products are intended as celebrations of the local, they would have been quite unthinkable without the new level of international communication in works and ideas. ... Aside from its insistence of local roots, work of the National Romantic period therefore displayed another tendency which has been dubbed 'Material Realism' by the Swedish historian Björn Linn. This meant a move away from rendered surfaces and plaster ornaments towards naked brick and stone, and a consequent concern for the expression of construction techniques in giving a building its identity.

Blundell Jones, P. (2004b) 'Chapter 2. The Inheritance: National Romanticism and Material Realism, Asplund's teachers and their works', *Gunnar Asplund*, Phaidon, London.

Frampton (1980) has briefly mentioned the Villa Mairea's direct reference to Kalela, pointing out the L-shaped plan with a stepped living room level and the sculptural fireplace. It is not clear whether or not Aalto referred to Kalela when designing the Villa Mairea as Frampton claims.<sup>15</sup> However, considering Gallen-Kallela's status as the Father of Finnish art and the Kalela's appeal to nationalist feeling, Kalela was possibly remembered as a precedent of Finnish architecture in Finns' hearts whether visible or not. Beyond Frampton's points, there are many more similarities between the two. First of all, Gallen-Kallela and Aalto both made much of the topographical context. It is shown in the stepped colonnade and the raised platform of the living room in the case of Kalela, and in the location for the cantilever height, in the terraced courtyard of the 'Proto-Mairea' and the service entry division using the level difference in the case of the Villa Mairea. Moreover, the fact that Gallen-Kallela paid a double wage to a carpenter not to damage a pine tree in the southeast corner of Kalela (Gallen-Kallela-Sirén, 2003b), reminds us of Aalto's effort to preserve the pine tree in front of the sauna hut. The two houses were designed and built amid a pine forest. Nevertheless, Gallen-Kallela tried to touch the natural environment as little as possible<sup>16</sup> and kept it as itself, while the Villa Mairea's site was a clearing. In this sense, the former seems to have been more sensitive to nature at least in the design. Yet, we need to take into consideration the circumstances that the Kalela site was far from civilisation like Karelia where he had frequently visited, but Noormarkku of the Villa Mairea was an industrial town, however small, and also that machines were more used in 1930s than in 1890s.

Secondly, the courtyard and the L-shaped house of the Villa Mairea are reminiscent of Kalela's studio living room and the L-shaped series of rooms. Although the courtyard of the Villa Mairea is an outdoor space, it had been regarded as if it were an indoor space with the exterior wall and the fireplace, whereas the Kalela living room is as bright as an outdoor space due to the large window and skylight. Moreover, each interior space of the Villa Mairea is

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<sup>15</sup> There is an interesting story about Gallen-Kallela's visit to the Aaltos in Jyväskylä during Aalto's childhood. See Schildt, G. (1984) *Alva Aalto: The Early Years*, Rizzoli, New York, p. 53.

<sup>16</sup> Treib (1975) describes that Gallen-Kallela was bothered by few trees he had to cut for Kalela.

open to the court, the focus of the whole plan (Aalto, 1939), as in Kalela: the living room through removable large windows, the dining room through a series of tall windows and a door, and the sauna through a door orienting to the court. The subtlety of spatial overlapping of 'inside' and 'outside' is one of the most important characteristics in Finnish architecture according to Glanville (1977): 'the Finnish concept of 'inside' and 'outside' is subtler than that we normally conceive, for *within* the building there is again an external space function.'<sup>17</sup> However, there is also a significant difference between the two L-shaped plans: Kalela's wings of rooms do not have any hierarchy unlike the Villa Mairea, because Kalela had no separate servant area.

Thirdly, the interior level change is critical in both houses. The raised platform of Kalela due to the rock below is very similar to the raised floor of the Villa Mairea's early versions, added to get an appropriate cantilever height. The vertical circulation of Kalela (main floor level ↔ raised platform ↔ stairs ↔ upper floor balcony passage) reminds us of that of Mairea's Early Version 1 and 2. Fourthly, the protruding upper floor bedroom of Kalela parallels the cantilever terrace of the Villa Mairea's early versions, which had been the most important theme influenced by Wright's Fallingwater. Such protruding upper floors or balconies are frequently found in Finnish farmsteads and barns. For example, a loft barn of Karkkila and a granary of Paltamo in Seurassari Open-air Museum have this element, and Gallen-Kallela's painting of Korpilahti loft barn also depicts it (Fig. 4-8). Fifthly, vernacular building methods of Kalela's log construction and stone base are easily found in the Villa Mairea – especially in the sauna, rustic timber posts and the stonewall (see Fig. 4-13, Fig. 5-81 and 82).<sup>18</sup>

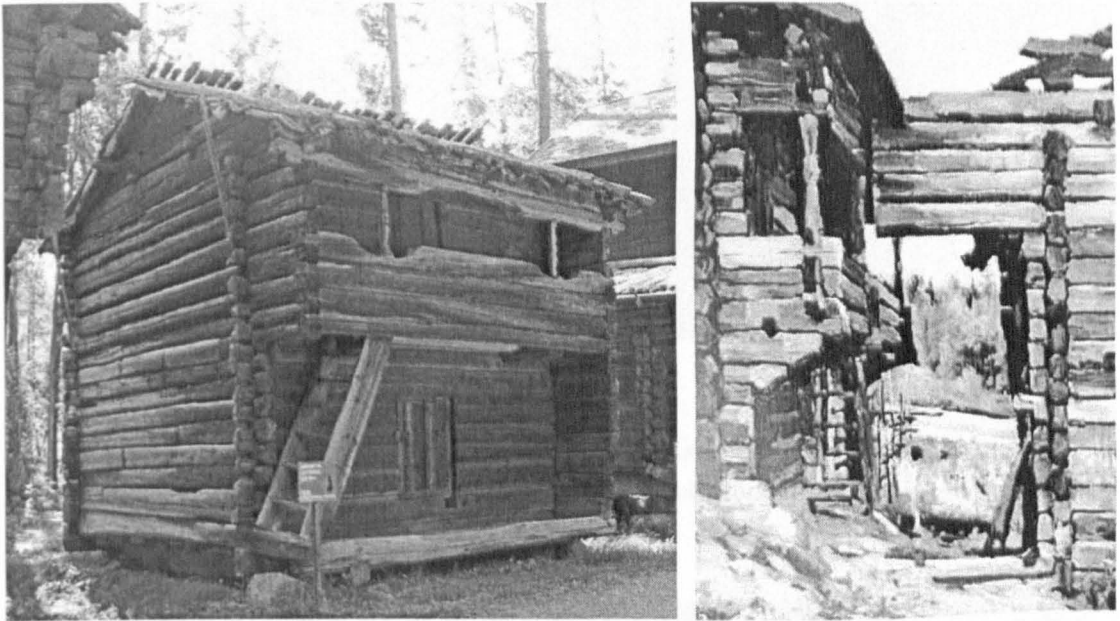
Lastly, there are some similar details of the studio skylight, the sculpture-like fireplace, the morphology of door handles, and the Doricist sense in columns. The skylight is also reminiscent of the Hvitträsk (1901), which was regarded as the next forerunner of 'Finnish

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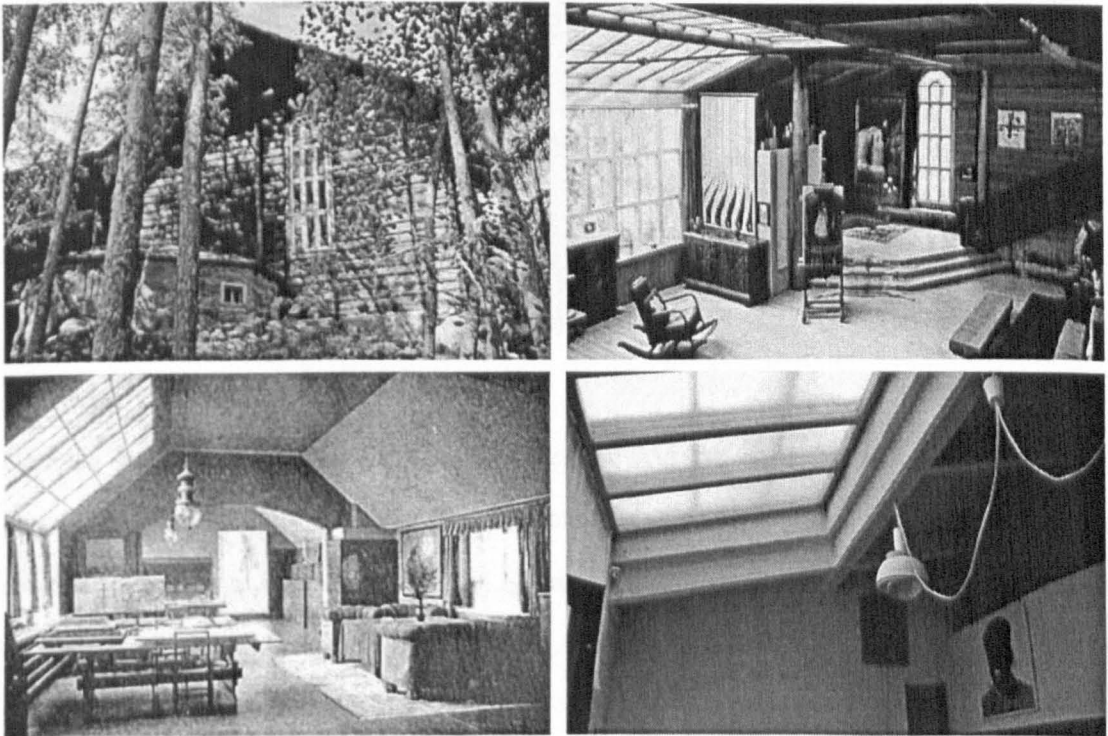
<sup>17</sup> Glanvill, R. (1977) 'Finnish Vernacular Farmhouses', *AAQ*, vol. 9, no. 1, pp.36-52.

<sup>18</sup> Concerning the vernacular characteristics of the Villa Mairea, see 'Chapter 5.3.1. Reconciliation of 'Modern' and 'Primitive'".

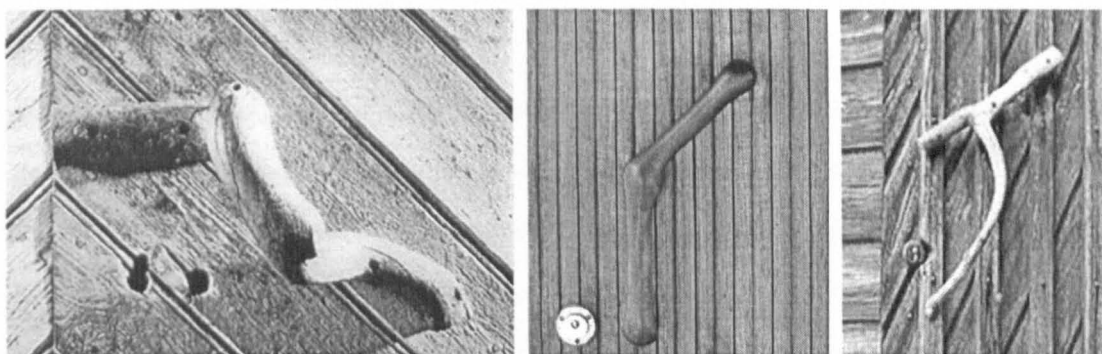
[Fig. 4-8] Loft barn of Karkkila in Seurassari Open-air Museum, Helsinki (left) and Gallen-Kallela's painting of Korpilahti, 1886 (right)



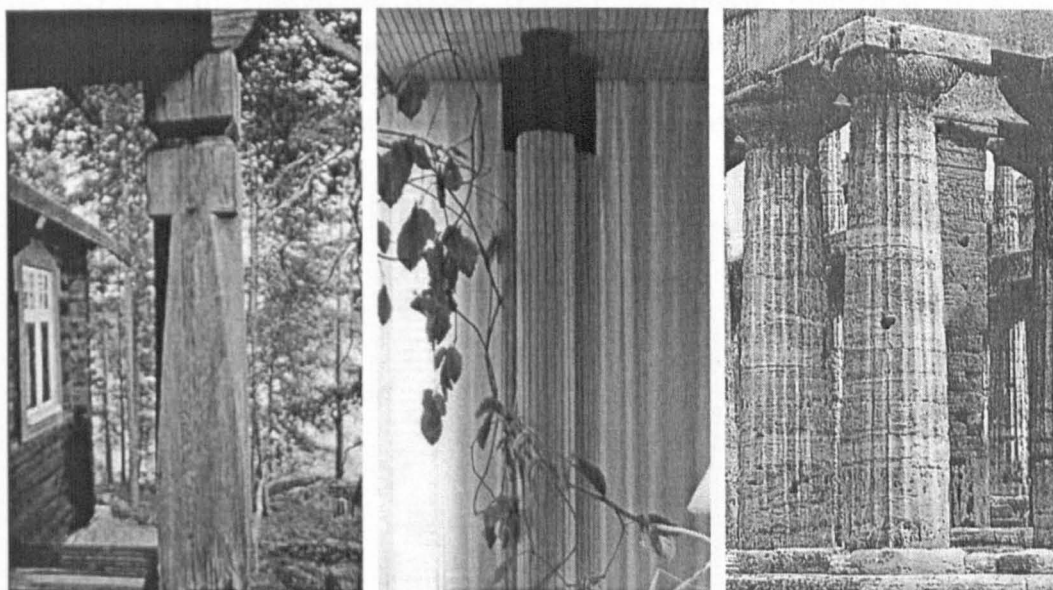
[Fig. 4-9] Kalela's east façade (top left) and comparison of studios with huge window: Kalela (top right), Hvitträsk (bottom left) and Villa Mairea (bottom right)



[Fig. 4-10] Comparison of door handle: Kalela (left), Villa Mairea (middle) and Muuratsalo summer house sauna, 1953 (right)



[Fig. 4-11] Different Doric allusion of column: 'Kalela column' (left), tripled-column in Villa Mairea (middle) and Doric column in Temple of Hera, Paestum, Italy, c. 530 BC (right)



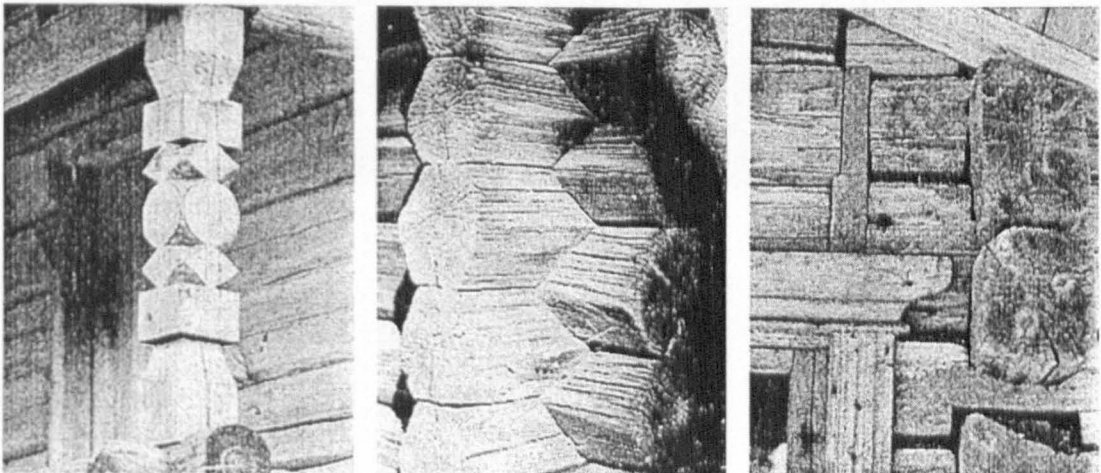
National Romantic' architecture, and the fireplace and the door handles succeed Finnish vernacular elements. By the way, the columns show each architect's individual taste in relation to the Doric order. Interestingly, Kalela's column emphasises its capital by circumcarving an echinus and a neck under an abacus, but Mairea's one clad with copper beech strips alludes to the fluting on a shaft. Considering carved posts in Finnish vernacular farmhouses



together (Fig. 4-2 and 12), the ‘Kalela column’ must be Gallen-Kallela’s unique amalgamation of the vernacular and the classical.

In conclusion, Akseli Gallen-Kallela’s studiohouse Kalela reflects Finnish national identity not only through the artist’s reputation as a national artist but also through many characteristics of the country’s vernacular buildings despite the influence of English Arts and Crafts Movement and despite the controversy on the neoclassical value. And without regard to its direct influence on the Villa Mairea, there are many affinities between the two. By studying Kalela, in particular, we could understand better the Finnishness of Alvar Aalto and the Villa Mairea among other important facets.<sup>19</sup>

**[Fig. 4-12] Craftsmanship of wood structure in Finnish vernacular farmhouses: decoratively carved wood post in Liekso, which is comparable with wood posts in Kalela’s early sketch (Fig. 4-2) and ‘Kalela column’ (Fig. 4-10) (left), cross joints of log ends in Niemeläntorppa (middle) and adept log junction in Keuruu (right)**



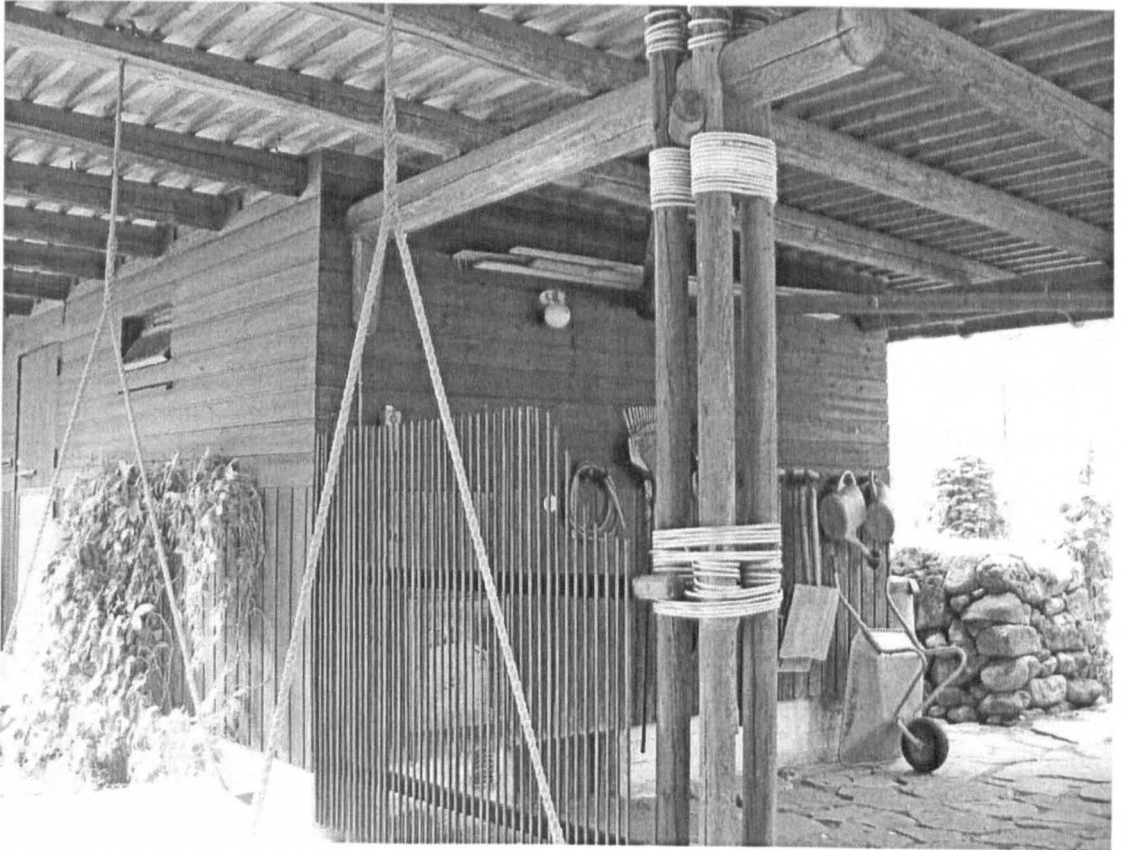
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<sup>19</sup> In his monograph on Aalto (1995), Weston tried to see Aalto within the Finnish context.

Throughout this chapter [Aalto and Finland], I have emphasized the culturally distinctive features of Finnish art and architecture, ... Above all, my aim has been to situate his work in its Finnish context: all accounts of Aalto’s architecture attempt this to a greater or lesser extent, but none, to my mind, has sufficiently stressed how deeply his work is rooted in a national culture.

Weston, R. (1995) *Alvar Aalto*, Phaidon, London, p. 17.

[Fig. 4-13] Wood structure of sauna in Villa Mairea



## 4.2. Voice Preparing THE Way and Beyond: Aalto's Own House in Munkkiniemi, 1934-36

Despite the fact that the building will be for the private use of a practising architect, the aim has been to achieve a plan form that is as universally applicable and as suitable for ordinary living as possible. (Aalto, 1937)<sup>20</sup>

Alvar and Aino Aalto, a promising young architect couple with increasing reputation, moved from Turku to Helsinki in 1933 to get more chances in the capital city. In Helsinki, they stayed in a flat for a while as in the Turku period between 1928 and 1933,<sup>21</sup> but soon they needed to design their own house, including the function of an architectural office. Considering Aalto's private house design career, his (their) own house is very important since it shows a diversion from the strict rationalist dictum starting with Villa Tammekann (1932)<sup>22</sup> and since it provided a stepping stone to jump to 'the crowning achievement' in the Villa Mairea.<sup>23</sup> As Pearson (1979) suggested, many ideas excluded from his house design owing to the restricted budget could come true in the Gullichsen's luxurious villa.<sup>24</sup> It is true and that is why I describe it here as a precedent of the Villa Mairea. Nevertheless, in many reasons, Aalto's own house is also significant in itself, not just as 'a voice preparing the way'. Firstly, it manifests the architects' ideas better than any other building because it is their house. Secondly, the combination of two purposes, 'living and working', made the Aaltos consider more the functional concerns between the two. Thirdly, it also functions as a kind of 'model house', where visiting clients could appreciate Aaltos' architectural works including furniture and be

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<sup>20</sup> Aalto, A. (1937) 'Private House Aalto: Outline Specification'. Republished in Lukkarinen, P. (ed.) (1999) *Alvar Aalto's Own House and Studio, Helsinki*, Alvar Aalto Foundation, Jyväskylä and Helsinki.

<sup>21</sup> Lahti, M. (1999) 'Alvar Aalto's Own House and Studio'. In Lukkarinen, P. (ed.) (1999) *Alvar Aalto's Own House and Studio, Helsinki*, Alvar Aalto Foundation, Jyväskylä and Helsinki.

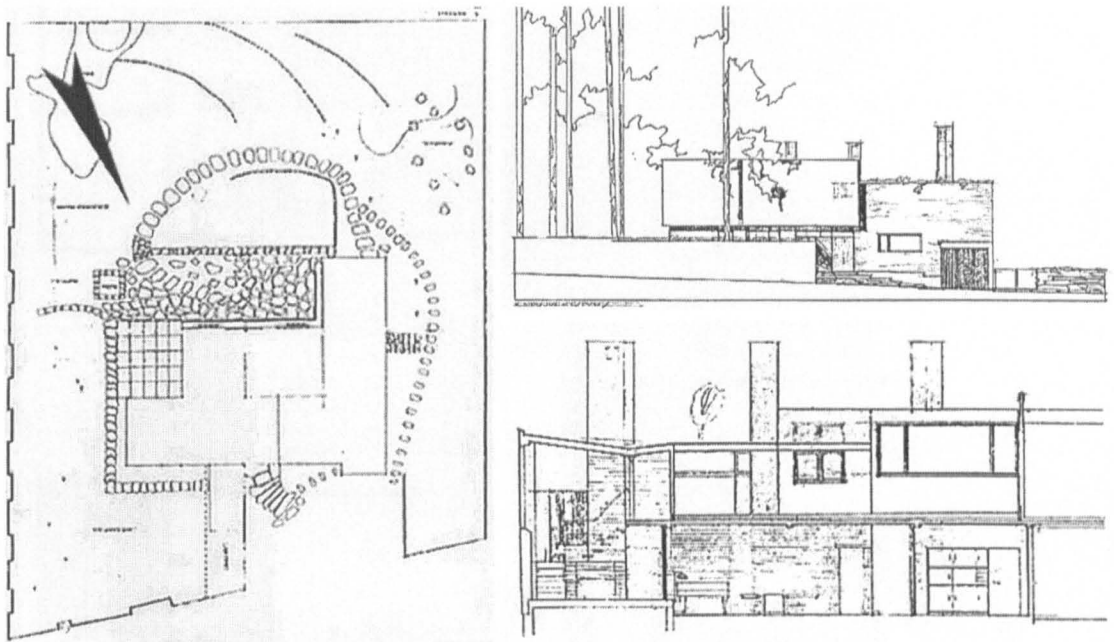
<sup>22</sup> Villa Tammekann was commissioned by an Estonian professor but it was built differently from Aalto's original design because of technical and financial reasons. Schildt, G. (1994) *Alvar Aalto: A Life's Work, Architecture, Design and Art*, Otava Publishing Company, Helsinki.

<sup>23</sup> *Ibid.* p. 186.

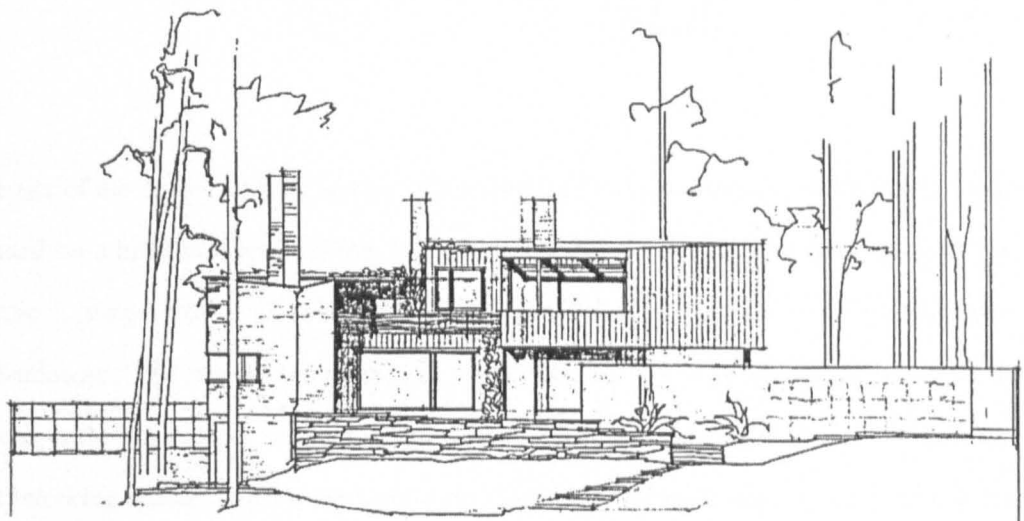
<sup>24</sup> Pearson, P. D. (1978) *Alvar Aalto and the International Style*, Whitney Library of Design, New York, p. 168.

persuaded by them, as Quantrill implied (1983).<sup>25</sup> Fourthly, the situation of the tight budget in the house project is more realistic and applicable to ordinary people than luxurious villa cases.

[Fig. 4-14] Aalto's own house at Riihitie in Munkkiniemi, Helsinki: site plan (left), northeast (street side) elevation (right top) and longitudinal section (right bottom)

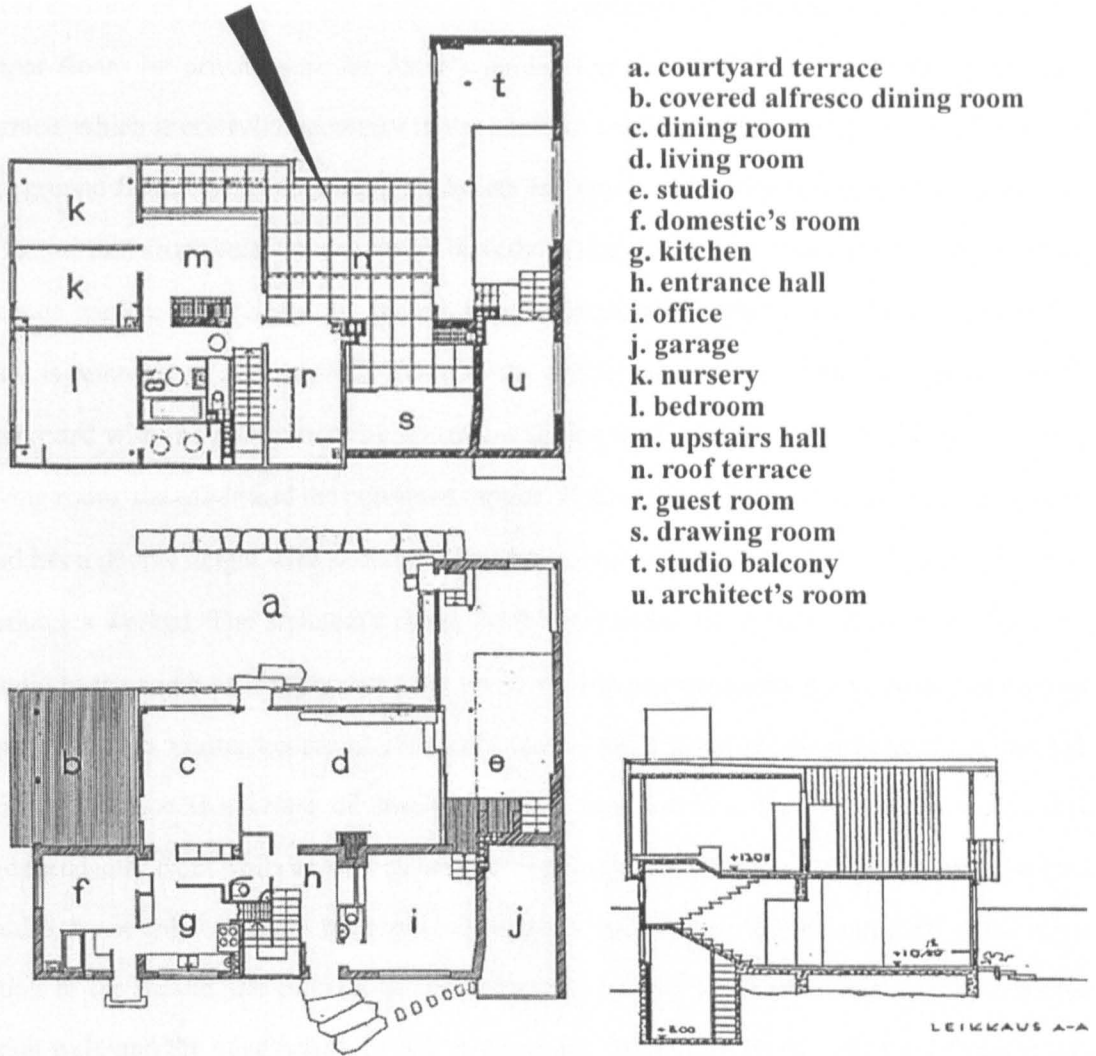


[Fig. 4-15] Aalto's own house southwest (garden side) elevation



<sup>25</sup> Quantrill, M. (1983) *Alvar Aalto: A Critical Study*, New Amsterdam Books, New York, p. 78.

[Fig. 4-16] Aalto's own house: upper floor plan (left top), ground floor plan (left bottom) and cross section (right bottom)



The site of the house, Riihitie 20 (no. 10 at that time) in Munkkiniemi, a suburb of Helsinki, is located on a hillside that overlooks the sea about 500 m to the southwest. The main plan is a simple L shape with a thin studio wing, which forms a courtyard terrace with stone wall embankment. The two-storey house has public spaces in the ground floor and more private spaces in the upper floor. In a different manner, the house has 'living spaces' in the east wing and 'working spaces' in the southwest wing. And the volumes of each space interlock together horizontally and vertically. Once we get on the entrance hall in the north side, the circulation is largely divided into three: to go straight ahead to the living room; to turn to the right to the

office or to the studio via the office; and to turn to the left to climb up to the upper floor. The clear division of the circulation minimises the disturbance of each space. Particularly in the upper floor, the private area for Aalto's family was detached from the studio by the roof terrace, which is critically necessary in the house of combined functions. In the living room of the ground floor, we can sit around the hearth and enjoy the outside landscape through a large window, and from here we can reach directly to the dining room and the studio, or to the outside garden. Particularly, the ground floor becomes a big open space if the studio sliding wall is removed as Aalto (1937) wrote in the project description: 'The work rooms can be combined with the living room by opening a sliding wall'.<sup>26</sup> The studio, accessible from the living room, the office and the courtyard terrace, is three steps higher than the main floor level, and has a double height with an interior balcony room. In this room, many of Aalto's assistant architects worked. The architect's room, on the mezzanine floor above the garage, faces the studio to the south as if supervising the lower working space. In the upper floor, there are an upstairs hall, a master bedroom, children's rooms and a guest room. Among them, the hall with a fireplace is a centre of family life. The fireplace is unique because it is detached independently from walls as well as because it is larger than those of the living room and the studio. It not only circulates hot air but also guides one's movement around itself in the upper floor. In the façade, the contrast of two surface textures is striking. One is a white rendered brick wall, and the other a dark brown weatherboard. The latter wraps only the private spaces in the upper floor, which transfers warm temperature to family life. In the contrast, the studio emphasises its identity with the inward-sloping roof (see Fig. 4-18 and 5-79).

Nobody will doubt the direct relation of Aalto's own house to the Villa Mairea, and there is only a couple of years gap in design. Indeed, a lot of similar ideas were compacted in Munkkiniemi and fully blossomed in Noormarkku. At first glance, the L-shaped plan easily recalls the first proposal for the Villa Mairea in late 1937 (see Fig. 3-1), and each wing's

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<sup>26</sup> Aalto, A. (1937) 'Aalto's Private House: Aino and Alvar Aalto, Architects', *Arkkitehti*, 8/ 1937. Republished in Lukkarinen, P. (ed.) (1999) *Alvar Aalto's Own House and Studio*, Helsinki, Alvar Aalto Foundation, Jyväskylä and Helsinki.

function was divided into 'living' and 'working' in Munkkiniemi and into 'served' and 'serving' in Noormarkku. Aalto's obsession with the interior level changes in the Villa Mairea early versions had already been fruitful in the studio of his own house. Interestingly, both were due to the adoption of the terrain and also due to the insertion of the basement: the garage in the Aaltos' house and the entrance in the Villa Mairea early versions. The level change gives a hierarchy in Aalto's studio and creates a diversified interior landscape in Gullichsen's large living room.<sup>27</sup> In addition, Aalto's studio of double height with interior balcony room and a high window was directly reflected in Maire's studio. As individual elements, the covered alfresco dining room is reminiscent of the roofed terrace behind the dining room in the Villa Mairea, and the upper floor detached fireplace is applied to the main fireplace of the Villa Mairea Early Version 3 (see Fig. 3-32 and 34). We can notice the sensitive gesture of the Villa Mairea entrance canopy in the stone entrance steps of Aalto's own house. That is to say, the natural stone tablets were superimposed bending towards the access road. And the entrance steps are linked by dotted smaller stones to the garage, whose corner wall was also slightly bent towards the passage. Perhaps, the most remarkable linkage of the two houses might be the use of materials, that is, the texture. From the whole façade, both houses show off their contrast of whitewashed brick walls and brown timber boarding walls – contrasts between 'bright' and 'dark' and between 'light' and 'heavy'. Meanwhile, in the details, there are subtle finishes in the interior and the exterior surfaces, such as, wood and tile flooring, 'rice-straw' textile, rustic stone patterns and contrasting green grass, and clinging plants on the exterior wall. The circular black steel column of Aalto's house became diversified into many species in the Villa Mairea, and a series of bamboo poles beside the outdoor dining room of the former (see Fig. 5-101) appeared again in an early main staircase sketch (see Fig. 5-105) and as the entrance canopy timber poles in the latter (see Fig. 5-53). The bamboo poles, with the 'rice-straw' textile and the removable sliding wall in the studio, imply Japanese influence on Aalto's design, which became a more pivotal factor in the Villa

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<sup>27</sup> Level changes or raising floors were an interesting architectural theme to Aalto. As other examples in private houses, the raised hall (living room) of Maison Carré (1956-61) and Villa Skeppet (1969-70) are typical. See [Fig. 5-42] and [Fig. 5-49].

Mairea project.<sup>28</sup> The timber railing, barked or unbarked, was similarly treated in both houses, which remind us of Finnish vernacular farmhouses, and the stone walls and embankments of both allude to graveyards of Finnish medieval church (see Fig. 5-83). In this point, the two houses followed Finnish vernacular tradition.

Another important theme that both houses share is ‘openness’ to garden. This theme is intimately co-related with Aalto’s subtle conception of ‘inside’ and ‘outside’, which could be read well in his article ‘From Doorstep to Living Room’ (1926).<sup>29</sup> The two houses open towards their garden as if they were real interior spaces. By placing the entrances opposite to the gardens, Aalto privatises them more as cosy and psychologically comfortable places, and he designed them deliberately with many alternative sketches. However, we could feel the gesture – ‘openness’ to garden – in Aalto’s own house stronger in that the street side façade is almost closed off in contrast with the garden side that is wide open to the exterior (Fig. 4-14 and 15). It is indebted to the fact that Aalto’s house is located among other building sites but the Villa Mairea is amid a forest. Not only in the façade, we could realise this intention in plans, too. In the ground floor, if we pass through a narrow entrance hall, the wide living and dining space is waiting for us. Similarly, the upper floor roof terrace splays towards the garden side, whose orientation corresponds to due south – good for a sun bath in the northern climate. If the Villa Mairea looks out over Noormarkku town side, Aalto’s own house looks to the garden side or the seaside – but in any case, they outlook downwards and orient to the south.

Despite the many similarities that Aalto experimented with in both houses, the significant difference between Aalto’s own house and the Villa Mairea is its modesty and compactness as I mentioned in the first part – although it is also a middle class house with a maid’s room.<sup>30</sup> Within a limited area, he arranged every space organically and functionally. This modest house is fit for the ‘relatively poor’ architects’ family just as the luxurious villa is suitable for

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<sup>28</sup> See ‘Chapter 5.3.2. Reconciliation of ‘Western’ and ‘Eastern’.

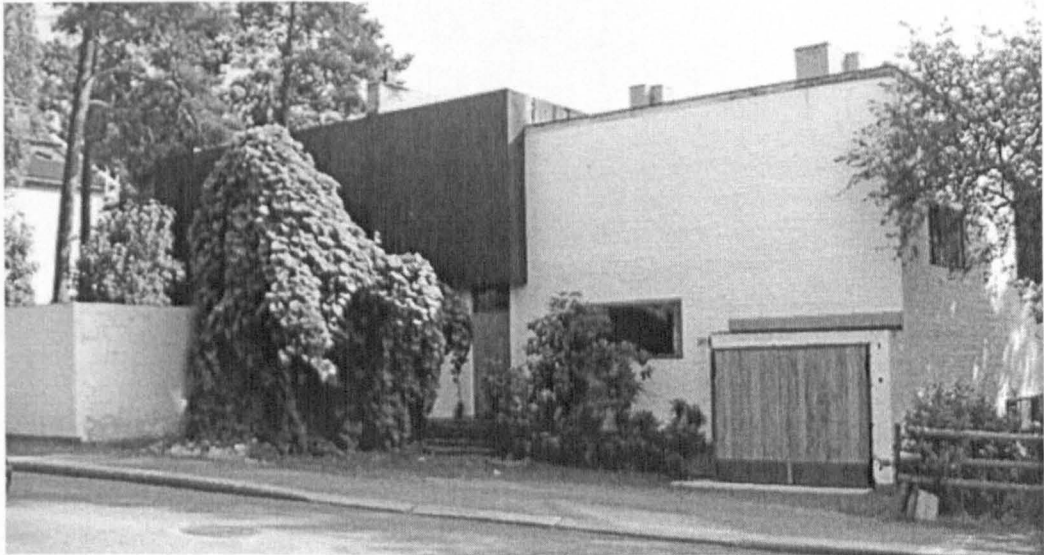
<sup>29</sup> Concerning it, see ‘Chapter 5.1.2. Enclosed Courtyard’.

<sup>30</sup> Perhaps, Aaltos needed a maid not only for their own family but also for the many assistant architects working there.



the extremely rich entrepreneur family. For this reason, Aalto's own house is perhaps nearer to the 'paradise' for 'ordinary mortals' that he addressed.<sup>31</sup> This might be why Gustaf Strengell perceived in it the beauty that the humble Niemelä farm assumes and why Aalto was so satisfied with the compliment.<sup>32</sup> Aalto's experiments for his 'own' space of dwelling and working continue in his summer house in Muuratsalo (1953) (see Fig. 5-13) and studio house at Tiilimäki in Munkkiniemi (1955) (see Fig. 5-4).

[Fig. 4-17] Street side (north) façade of Aalto's own house



<sup>31</sup> Aalto, A. (1957) 'The Architect's Dream of Paradise', *Lecture at the jubilee meeting of the Southern Sweden Master Builders' Society in Malmö*. Republished in Schildt, G. (ed.) (1997) *Alva Aalto in His Own Words*, Otava, Helsinki, pp. 215-217.

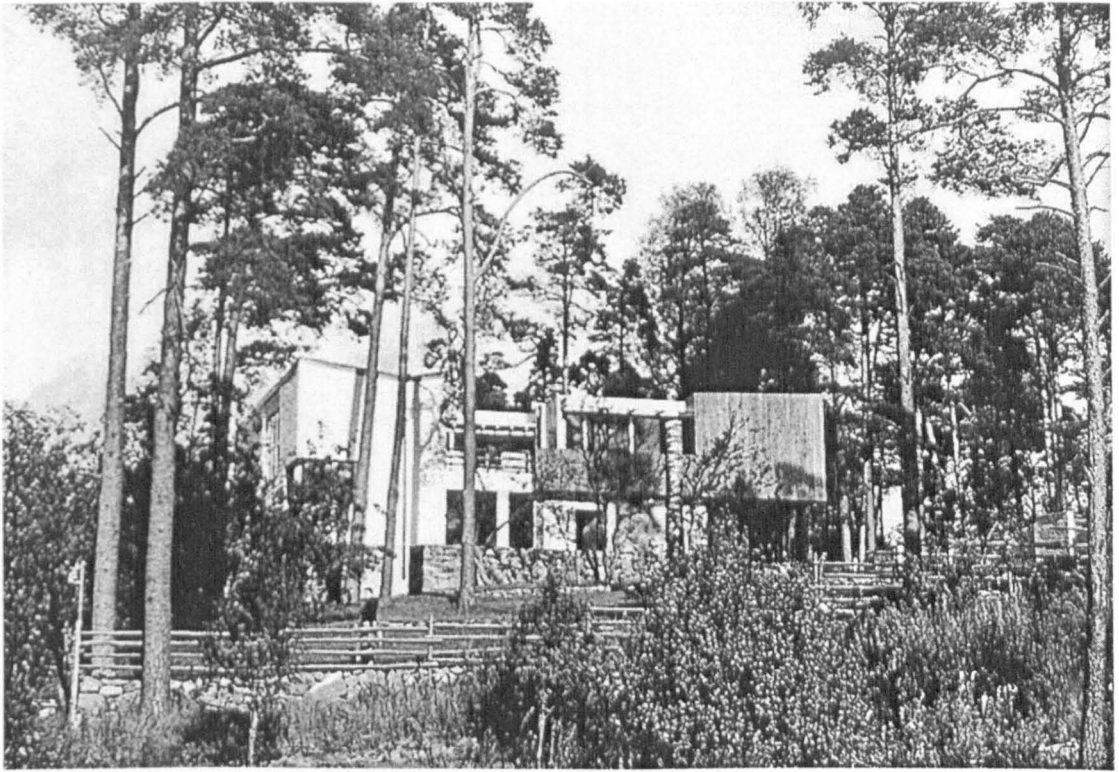
There is an ulterior motive, too, in architecture, which is always peeping out from around the corner, the idea of creating paradise. It is the only purpose of our buildings. If we did not carry this idea with us the whole time all our buildings would be simpler, more trivial and life would become – well, would life amount to anything at all? Every building, every work of architecture, is a symbol which has the aspiration to show us that we want to build a paradise on earth for ordinary mortals.

This version of translation was quoted from Lahti, M. (1998) 'Alvar Aalto's One-family Houses: Paradises for Ordinary People'. In Yoshida, N. (ed.) (1998) *Alvar Aalto Houses – Timeless Expressions, Architecture and Urbanism*, June 1998 Extra Edition, A+U Publishing Co., Tokyo.

<sup>32</sup> Schildt, G. (1986) *Alva Aalto: The Decisive Years*, Rizzoli, New York, p. 130.

One summer afternoon he [Strengell] came to Aalto's house and asked if he could come in. "I have just been to Seurasaari to see the Niemelä farm. Now I should like to see the modern Niemelä farm once more." He sat for a while in the living room, then rose and took a taxi to the Pörssiklubi, where he shot himself.

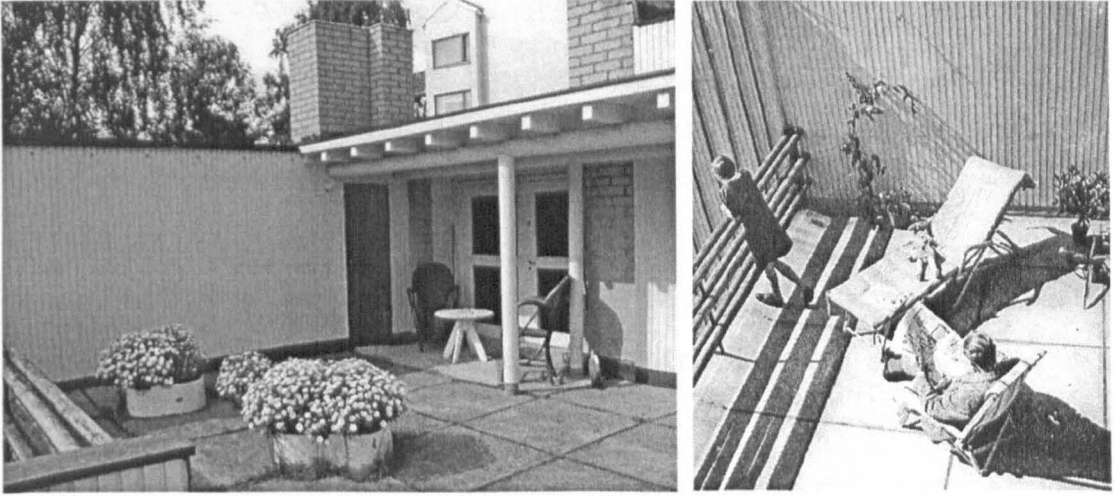
[Fig. 4-18] Garden side façades of Aalto's own house



[Fig. 4-19] Living room (top) and studio (bottom) of Aalto's own house



[Fig. 4-20] Roof terrace of Aalto's own house



[Fig. 4-21] Niemelä farmstead in Seurassari Open-air Museum, Helsinki<sup>33</sup>



<sup>33</sup> Also see [Fig. 5-82].

### 4.3. The Modern in the Vernacular and Beyond: Asplund's Summer house at Stennäs, 1937

There is but one rule that holds in architecture: build naturally. Don't do anything stilted, don't do anything unnecessary. Everything that is superfluous becomes ugly with time. (Aalto, 1925)<sup>34</sup>

The Swedish Erik Gunnar Asplund (1885-1940) was the most influential modern architect in Scandinavian countries in the early 20<sup>th</sup> century. It is not unfamiliar to mention Asplund when describing Aalto, because Aalto respected him very much since the time when Aalto was still a fledgling, and his influence on Aalto was enormous in many designs.<sup>35</sup> According to Göran Schildt (1984), Aalto's attraction to Asplund started because he was younger than other masters – e.g. Danish Martin Nyrop (1840-1921) and Swedish Ragnar Östberg (1866-1945)<sup>36</sup> – and ready for 'experimentation', 'renewal', and 'surprises', and Schildt went so far as to say that their connection was 'a pure teacher-pupil relationship'.<sup>37</sup> However, as the thirteen years younger Aalto established himself, the influence was given and taken each way and not solely one-sided. Indeed, they shared a similar attitude towards architecture and even the locus of their architectural development was similar: from neoclassicism through rationalism finally to 'organic tradition'.<sup>38</sup> When facing Asplund's early death at 55 in 1940, Aalto expressed his deep sorrow that 'Sweden – and, above all, architecture – has suffered a great loss'.<sup>39</sup> Their first meeting was when Aalto visited Asplund's Skandia Cinema in Stockholm in 1923,<sup>40</sup> and

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<sup>34</sup> Aalto, A. (1925) 'Temple Baths on Jyväskylä Ridge', *Keskisuomalainen*, January 22, 1925.

Republished in Schildt, G. (1984) *Alvar Aalto: The Early Years*, Rizzoli, New York, pp. 17-19.

<sup>35</sup> About the influence, Schildt explains in detail by taking many examples. See Schildt, G. (1984) *Alvar Aalto: The Early Years*, Rizzoli, New York, pp. 169-179.

<sup>36</sup> Martin Nyrop is well known for his design of City Hall in Copenhagen (1892-1905) and Ragnar Östberg for City Hall in Stockholm (1909-23). Aalto had ever highly praised them in an article in 1920: 'Martin Nyrop and Ragnar Östberg – these are the two men who represent the first phase of the early Nordic Renaissance.' Cited in Schildt, G. (1984) *op. cit.* p. 113.

<sup>37</sup> *Ibid.* p. 113 and 169.

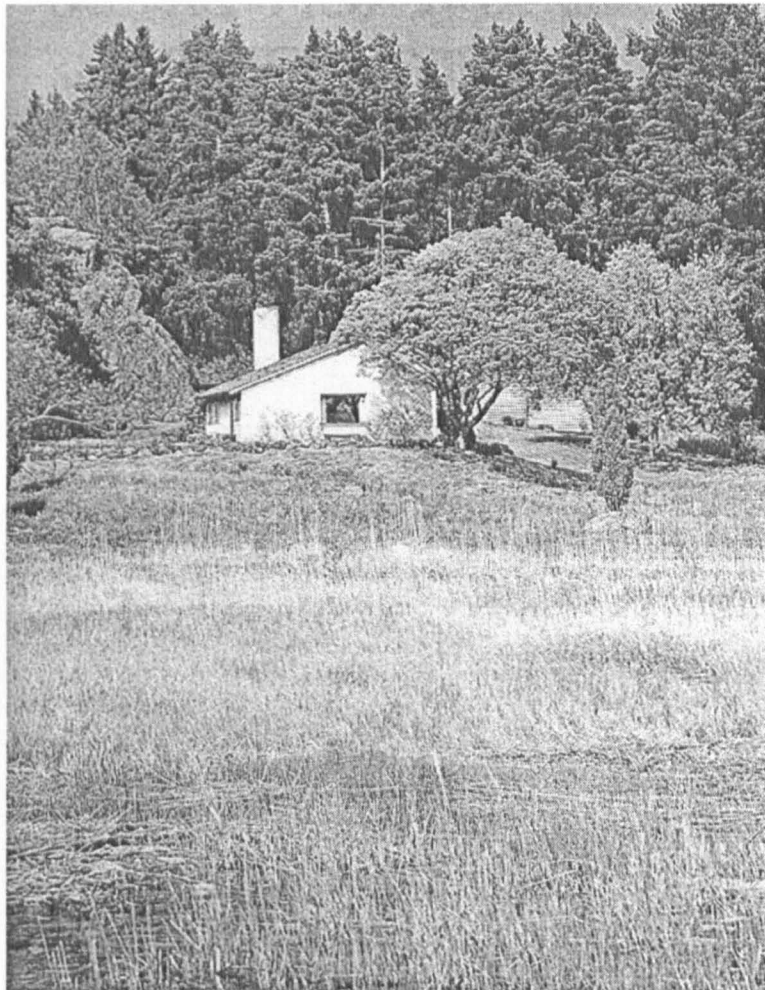
<sup>38</sup> Of course, older Asplund's career started when the so-called 'National Romanticism' was prevalent, and he was influenced by the mood more than Aalto.

<sup>39</sup> Aalto, A. (1940b) 'Erik Gunnar Asplund', *Arkkitehti*, no. 11-12. This memorandum was republished in Schildt, G. (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, pp. 242-243.

<sup>40</sup> Schildt described Aalto's attempt to be a trainee in Asplund's office in 1920, but it was in vain. Schildt (1984) *op. cit.* pp. 113-114 and 169.

their later intimate friendship frequently drew Aalto to his office. Stuart Wrede (1980) wrote in his monograph on Asplund that Aalto called on the Asplund office to have a discussion about their works whenever he visited Stockholm – almost once a month between 1934 and 1940.<sup>41</sup> From this fact, we can guess that they must have discussed together the designs of Asplund's own summer house (1937) and Aalto's Villa Mairea (1937-39), or that at least they must have known each other's project.

[Fig. 4-22] Asplund's summer house: view from the Hästnäsvisken water



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<sup>41</sup> Wrede, S. (1980) *The Architect of Erik Gunnar Asplund*, MIT Press, Cambridge, MA, p. 237 (note 112).

Asplund's summer house was sited in the wild land of Stennäs, southwest of Stockholm, which overlooks the Hästnäsvisen water to the south. At first glance, we could not find anything special because it just looks like a conventional country house with a white body and a dark coloured pitched roof. For his new wife and himself, however, Asplund breathed his genius here and there into the modest house. First of all, he positioned the house so sensitively that the northern end of it encloses a court along with the huge granite bluff beside and the opposite side of the court was also delineated by the slope, one big boulder and the living room block. Therefore, it lies with the bluff and a forest at its back, secures the courtyard and at the same time enjoys the view of the panoramic archipelago. The house's adaptation to circumstances can be read well in the interior level changes. There are four different floor levels within the house, which was the result of following the southward slope to the water. This modest attitude of the house towards nature confirmed that Asplund also belongs to architects of 'the earth' (Masaya, 1983),<sup>42</sup> and corresponds to Aalto's maxim: 'Build naturally. ... Everything that is superfluous becomes ugly with time.'

**[Fig. 4-23] Asplund's summer house: southward view from bluff**



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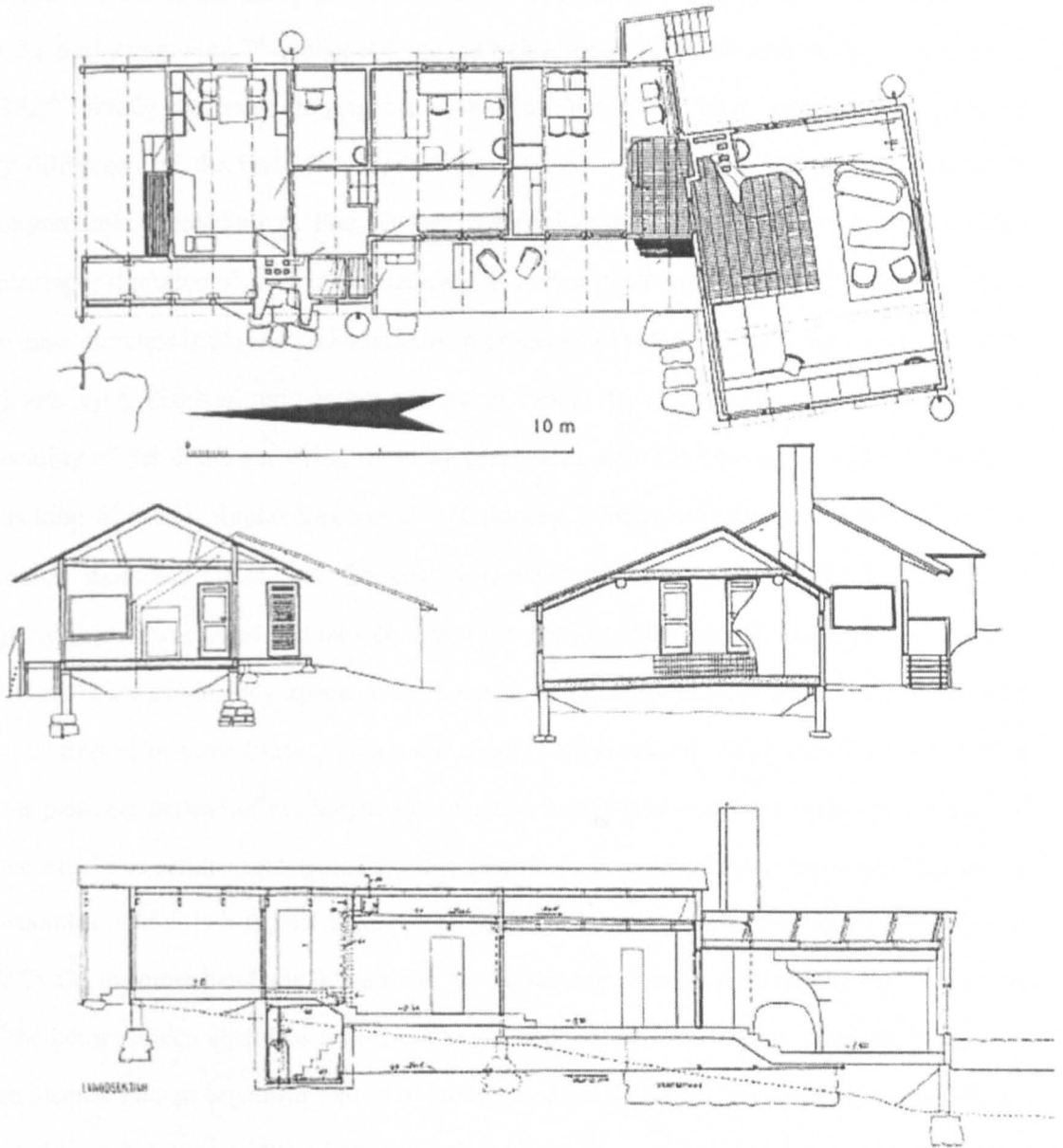
<sup>42</sup> See 'Chapter 3.2.2. Contour and Level Change'.

[Fig. 4-24] Asplund's summer house: view of enclosed court (top) and kitchen side north façade (bottom)





[Fig. 4-25] Plan and sections of Asplund's summer house



The most interesting effects of this house occur around the living room block, which might be called 'head' opposing to the long 'tail' (Wrede, 1980; Blundell Jones, 1988a).<sup>43</sup> The head is not only wider than tail, but also displaced and rotated a little. As for the displacement,

<sup>43</sup> Wrede, S. (1980) *op. cit.* p. 188, and Blundell Jones, P. (1988a) 'House at Stennäs, Masters of Building/Asplund', *Architects' Journal*, 20 January 1988, pp. 43-45.

Blundell Jones raises two purposes: 'the small upper living room gains a view out directly towards the water, and the space to the west of the building is further enclosed and protected by the projecting wing.'<sup>44</sup> About the twisted living room block, Wrede (1980) and Caldenby (1985)<sup>45</sup> simply suggested the response to the view, but in fact the 8° rotation does not make any difference for the vista. It is again Blundell Jones (1988a) who presented a persuasive interpretation. According to him, it was 'adopted empirically for the many coincidental advantages it produces', which are externally to soften 'the corner of the roofed terrace where the main entrance is placed' and internally to produce 'an enlarged corner for the entrance and [it] sets up a diagonal axis across the living room'. In addition, it emphasises more the speciality of the dominant living room by contrasting with the orthogonal upper room path. This kind of subtle 'Asplundian touch'<sup>46</sup> (Caldenby, 1985) also exists in the skewed eastern entrance stairs and the outdoor fireplace oriented towards the bluff, and the deviation from rigidity in plan was translated into asymmetry in section of the living room (Fig. 4-25). These characteristics had already appeared in sketches of one early scheme (Fig. 4-27). It shows a house divided in three blocks, which are clearly articulated by being displaced and having cross passages instead of the longitudinal terrace. Morphologically, the façade of the divided three blocks is reminiscent of the Oktorp farmstead, now in Skansen Open-air Museum in Stockholm, which is a typical example of farmhouses in southern Sweden (Blundell Jones, 1988). On the other hand, the living room, by far larger than any other rooms, must be a centre of the house, which again has a fireplace as its focal point. The fireplace is not only large but also shaped like an organism that it is enough to draw full attention within the living room. And the curved shape of the hearth is followed by that of chairs and a table designed by Asplund himself. Here, we notice the transfer of a primitive image to a modern design. Furthermore, the facts that the steps go through the hearth and that bricks were laid in the floor around the hearth reinforce its uniqueness.

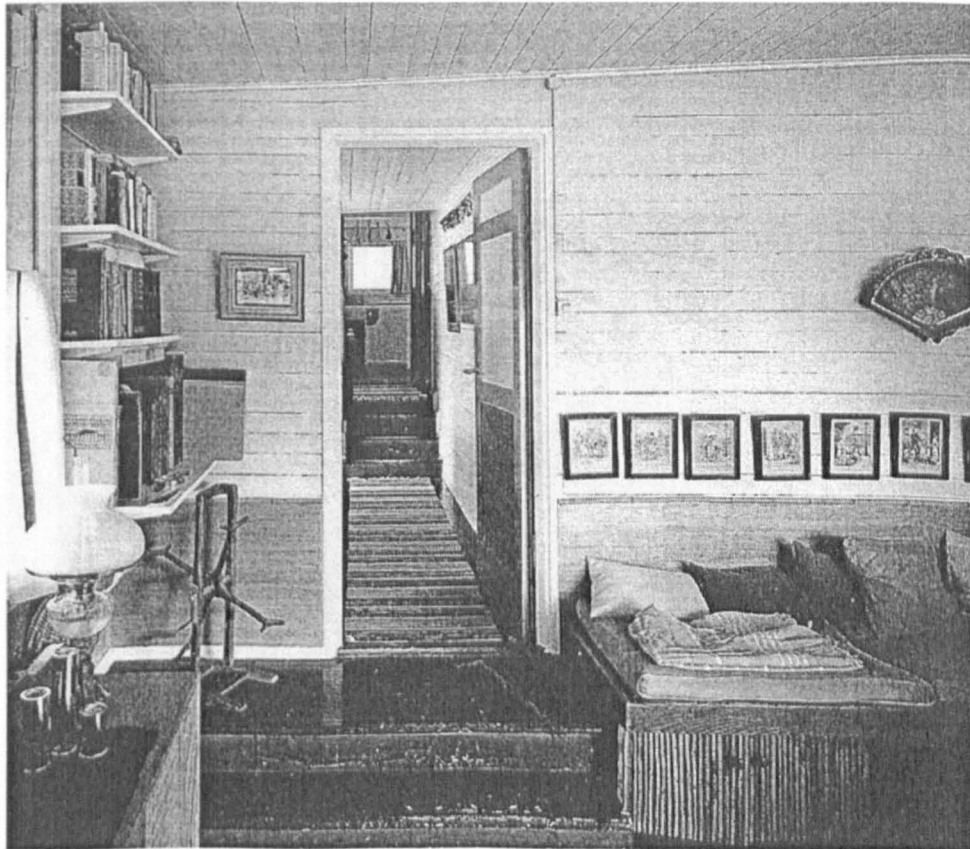
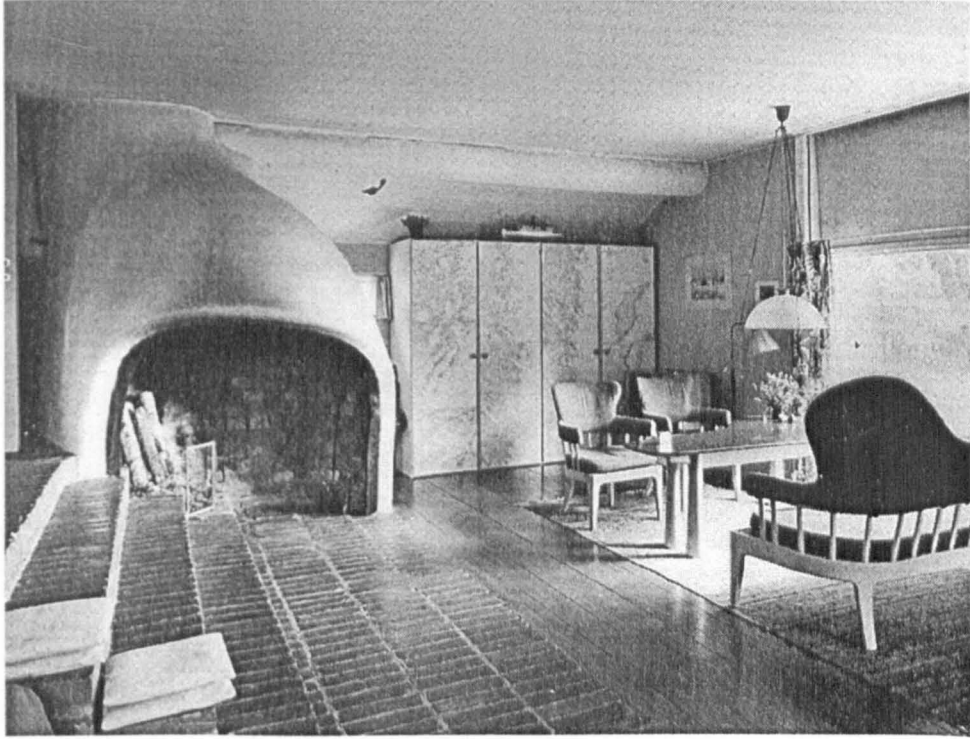
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<sup>44</sup> Blundell Jones, P. (1988a) *op. cit.* pp. 37-38.

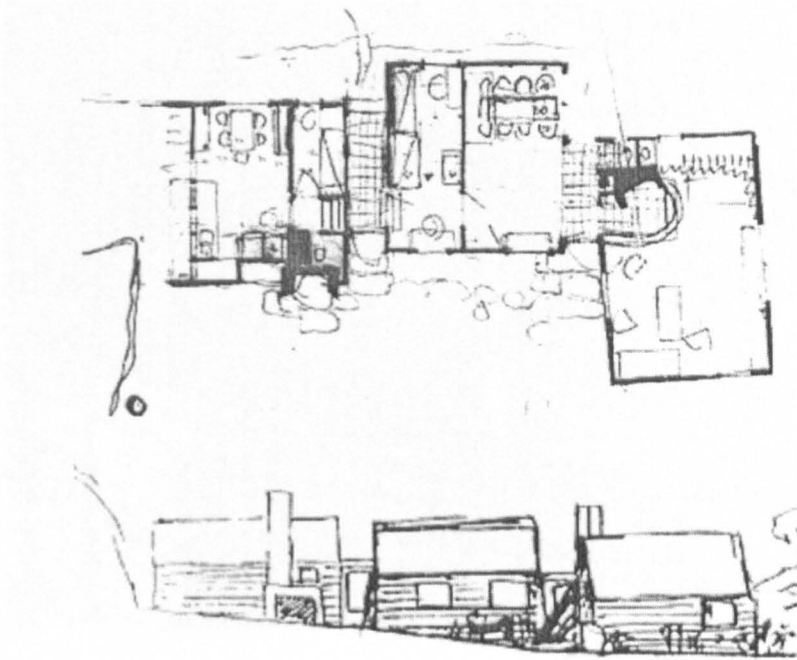
<sup>45</sup> Wrede, S. (1980) *op. cit.* p. 188, and Caldenby, C. and Hultin, O. (ed.) (1986) *Asplund*, Rizzoli, New York, p. 114.

<sup>46</sup> This term was used in Caldenby, C. and Hultin, O. (1985) *Asplund*, Rizzoli, New York, p. 114.

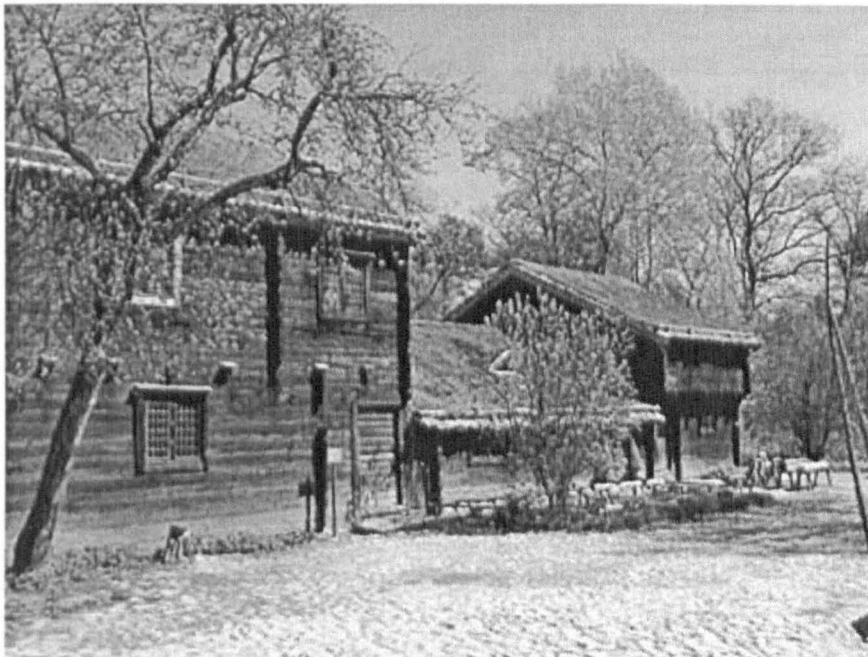
[Fig. 4-26] Living room with large fireplace (top) and view from upper living room through passage to kitchen (bottom)



[Fig. 4-27] One of early schemes of Asplund' summer house



[Fig. 4-28] Oktorp farmstead in Skansen Open-air Museum, Stockholm: dwelling side façade divided into three blocks



[Fig. 4-29] Oktorp farmstead in Skansen Open-air Museum, Stockholm: stable side wooden fence comparable with that of Asplund's summer house (Fig. 4-24)



In the Villa Mairea, we can perceive many parallel points with Asplund's summer house. Above all, the Villa Mairea has the similar 'head and tail' typology as Asplund's: the studio as the head element and the remaining part as the tail element, or, the southern wing with the studio as the head and the remaining as the tail, otherwise, the main body of the house as the head and the terrace roof with the sauna as the tail. Because the Villa Mairea is more multi-layered and complicated, we can apply 'the head/tail principle' (Duany, 1986) to it in several different ways.<sup>47</sup> The two elements give a hierarchical order to the houses and a volumetric contrast, distinguishing and complementing each other. Securing a courtyard is also an important theme in each house design, which might be a common tradition of human dwelling<sup>48</sup> and also found in Asplund's Villa Snellman (1917-18) (see Fig. 5-3).<sup>49</sup> The boundary of the courtyards is similarly natural and indeterminate in some parts. The courtyard

<sup>47</sup> However, I am sceptical about a biomorphic interpretation of the head and tail principle. Concerning the theme of 'head and tail', see 'Chapter 5.1.3. Volumetric Point: 'Head' or 'City Crown'.

<sup>48</sup> See 'Chapter 5.1.2. Enclosed Courtyard'.

<sup>49</sup> About Villa Snellman, see Forsyth, J. C. (1987) 'The Snellman House, Masters of Building/Asplund', *Architects' Journal*, 5 August 1987, pp. 30-45.

of Asplund's summer house is surrounded by the bluff and the house body in all directions except the southeast side that is only delineated by the southward slope and stone embankments. The Villa Mairea is enclosed firmly by the L-shaped house wings and low-height stone walls to the south and east sides, but bounded loosely by a gentle hillock, by shrubs and also by stone embankments. The courts are interlocked with the outside through the filtered or indeterminate openings. One big difference between Aalto's and Asplund's houses concerning the courtyard is the position of a main entrance. Aalto's Villa Mairea or his own house completely secures the courtyard because the access and entry do not interrupt the privacy of the courtyard, but Asplund's summer house and Villa Snellman reveal their courts wholly to visitors. But, in the case of Asplund's summer house, we need to note that it is located in too remote a place to have frequent visitors. The two architects must have shared a similar preference of a fireplace design. The skewed outdoor fireplace of the Villa Mairea clearly referred to that of Asplund,<sup>50</sup> but the huge hearths in both living rooms were on a similar line of Scandinavian tradition and also had a bilateral influence on the sculptural manner. Particularly, considering Aalto's fireplace design of Gullichsens' flat in Helsinki one year before (1936) (see Fig. 4-34), the influence seemed to be given and taken on both sides. In addition, the skewed angle by Asplund – namely 'Asplundian touch' – can be paralleled with some curve lines by Aalto – so to speak, 'Aaltoesque *aalto*'.<sup>51</sup> And both of them retain 'playfulness' as well as practical reasons.<sup>52</sup> Perhaps, the most basic spirit of the two architects must be sensitivity to the given condition, which might be a natural context or a vernacular tradition. Therefore, they followed the given terrains faithfully and did not forget fusing vernacular elements with sophisticate modern ones. Stennäs visitors impressed by shingled roofs, a timber-weaved fence outside the kitchen, an *aura* of the fireplace and roughly treated timber purlins in the living room, will be astonished to see Asplund's modern furniture design

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<sup>50</sup> Lewerentz and Stubelius's Villa Axhner (1914) and Asplund's Villa Snellman (1917-18) and Bäckström summer house (1934) also has a skewed fireplace, and Aalto's first won competition design of a summer house for *Aitta* (1927), entitled 'Konsoli', already shows the implication. However, they are all interior fireplaces. For 'Konsoli', see Pearson, P. D. (1978) *op. cit.* p. 74.

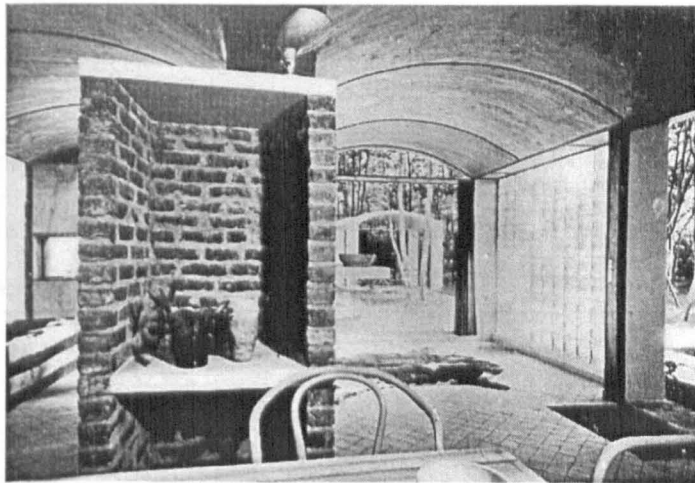
<sup>51</sup> 'aalto' means 'wave' in Finnish. Sovijärvi, S. (1995) *Finnish and English Dictionary*, NTC Publishing Group, Chicago.

<sup>52</sup> See 'Chapter 5.1.4. Curvilinear Elements'.

in the living room and to notice the central heating system and the concrete basement walls.<sup>53</sup> This fusion of modern and vernacular was experimented with much more actively by Aalto in the incomparably generous villa in a more civilised area, Noormarkku.<sup>54</sup>

The attention to natural context and to texture of materials and the emphasis on vernacular tradition in modern house designs by Asplund and by Aalto in the late 1930s were symptomatic of the impasse of the *tabula rasa* 'modern' houses. Even Le Corbusier, the very ideologue of the orthodox modern architecture, turned his interest to vernacular matters in the design of Petite Maison de Weekend in 1935. Psychologically more tangible dwelling space and more intimate building materials, environmentally more friendly living and tending to be a part of nature, these are what Asplund created in his summer house and what the Aaltos had shared with him in their house designs from early years (Fig. 4-31). In this sense, Asplund and Aalto nourished and enlivened the dried-up modernism and suggested the prospect of an alternative tradition of modern architecture.

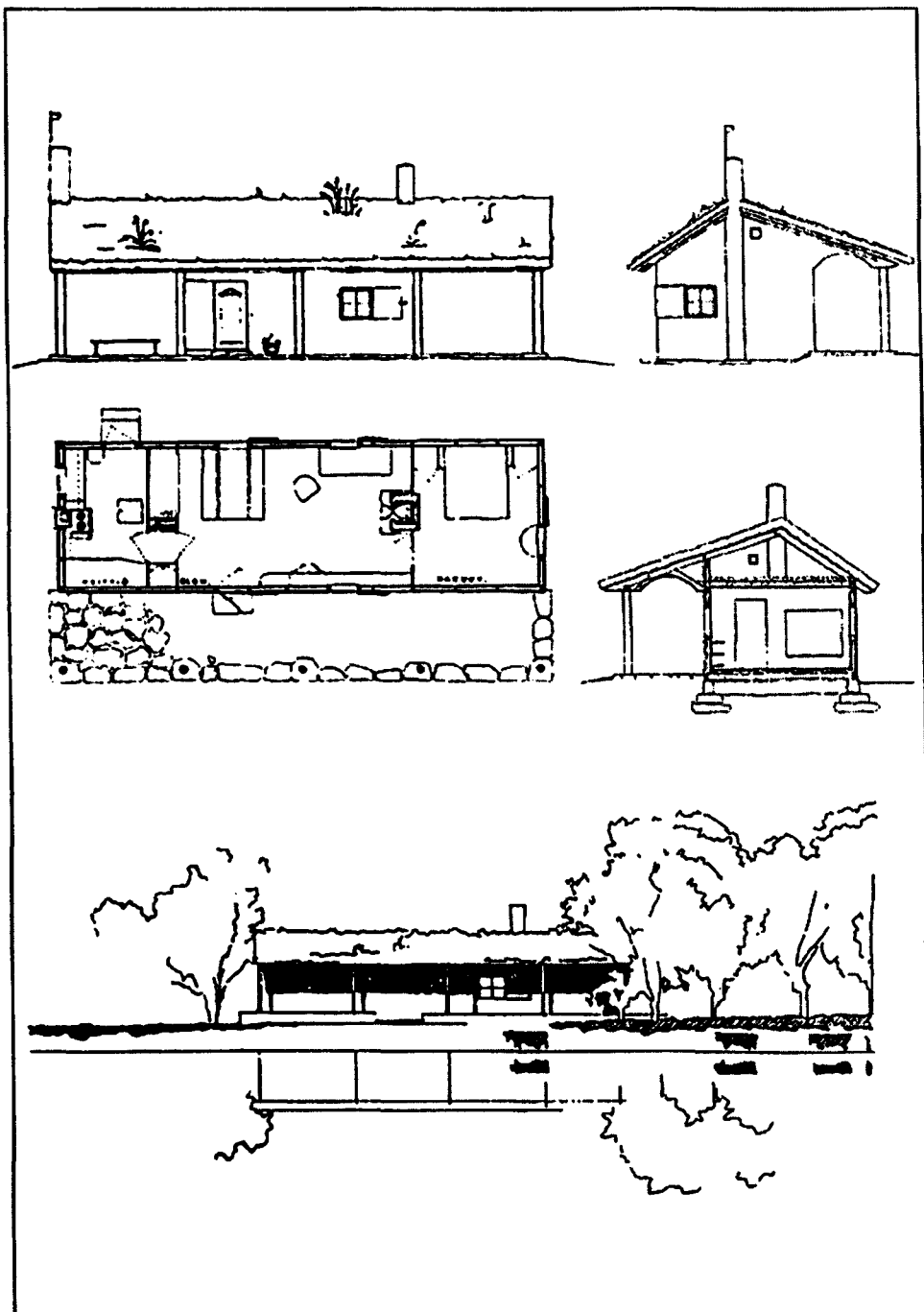
[Fig. 4-30] Petite Maison de Weekend by Le Corbusier, 1935



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<sup>53</sup> About the combination of primitive and modern in this house, see Blundell Jones, P. (1988a) *op. cit.*  
<sup>54</sup> Concerning the fusion of modern and vernacular, see 'Chapter 5.3.1. Reconciliation of 'Modern' and 'Primitive'', and 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.

[Fig. 4-31] Villa Flora, Alvar and Aino's summer cottage near Alajärvi, designed by Aino in 1926: it has a close affinity with Asplund's summer house in its modesty despite greater simplicity.





#### 4.4. Clients' Former Residence: Gullichsens' Flat Renovation in Helsinki, 1936

A client's former house cannot help having an influence on his (or her) new house design. Through the former residence, (s)he forms his (or her) life style, some part of which (s)he wants to maintain continually in the new environment and other part of which (s)he wants to improve or deny. For this reason, the former house's study is very useful to understand the new one. Particularly, it will be so more in the case of the Gullichsens, because the Aaltos had already been involved in their residence matters before the Villa Mairea project. The Aaltos got a commission from the clients to combine two flats in the Ahlström Company building at Itäinen Kaivopuisto in Helsinki and to furnish it, this project being carried out from April to August 1936.<sup>55</sup> And it seems that Aino Marsio-Aalto was mainly in charge of the project.<sup>56</sup> By renovating two flats into one luxurious flat, the Gullichsens intended to make a social gathering spot for their business as well as a general residence. Therefore, the main concerns of this work were focused on a dining room and on furniture design. Thinking over the foundation of Artek Company just a few months before (December 1935), this flat would also play a role of showing off their new furniture, as Aalto's own house did for clients.

This project is quite simple, as we can understand from the small number of drawings of it – the Alvar Aalto Archive keeps only 30 drawings of this project (91/26-55).<sup>57</sup> However, it is a little ambiguous to define the final plan because most of the drawings are undated<sup>58</sup> and the present flat interior was differently altered again from the original Aaltos' renovation.

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<sup>55</sup> Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, Rizzoli, New York, p. 262.

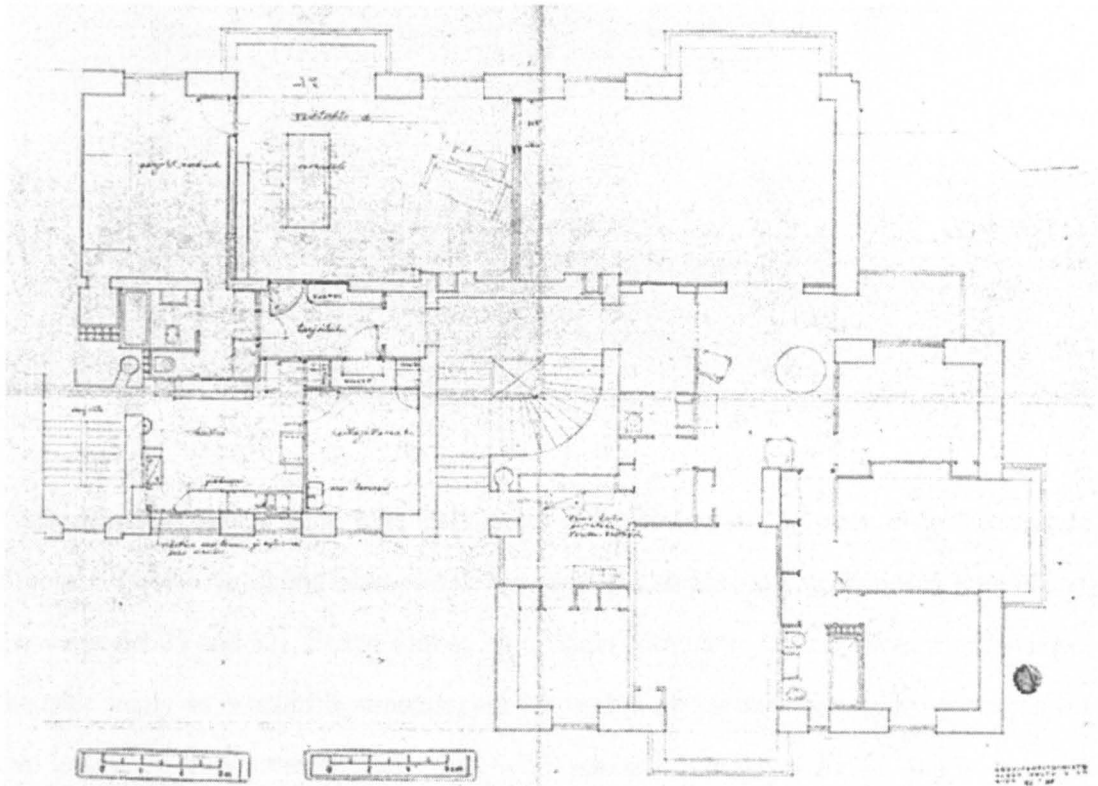
<sup>56</sup> Tzonis, A. (ed.) (1994) *The Architectural Drawings of Alvar Aalto 1917-1939, Vol. 6, Aalto's Own Home in Helsinki, Finnish Pavilion at the 1937 World's Fair in Paris, and Other Buildings and Projects, 1932-1937*, Garland Publishing, Inc. New York and London, p. 249. Most of remaining drawings for this project were anonymous except two signed by Aino Marsio-Aalto.

<sup>57</sup> They are composed of dining room, kitchen and furniture drawings, which were published in Tzonis, A. (ed.) (1994) *op. cit.* In addition, there are some photographs of the interior and furniture drawings in the archive of the Artek Oy. Information from Suominen-Kokkonen, R. ([Renja.Suominen-Kokkonen@helsinki.fi](mailto:Renja.Suominen-Kokkonen@helsinki.fi)) (20 February 2004) *Re: some questions about 'The Interior Design' of Villa Mairea*. Personal email to H.S.Kim ([arg00hsk@sheffield.ac.uk](mailto:arg00hsk@sheffield.ac.uk)).

<sup>58</sup> Among the 30 drawings, only one drawing for sofa was dated '12.V.36' (12 May 1936).

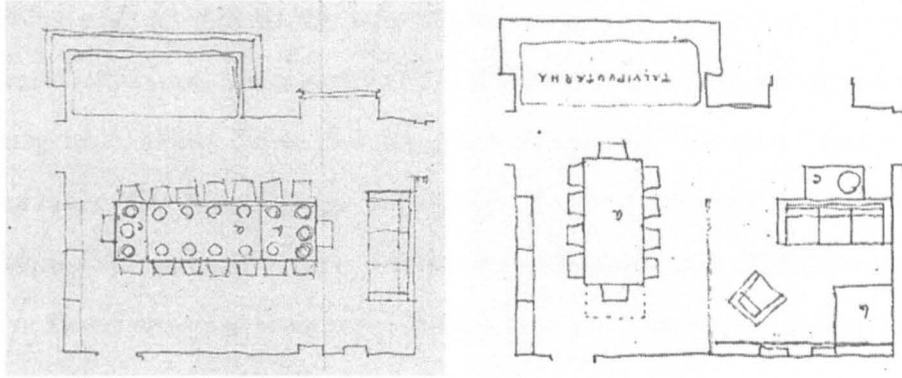
Nevertheless, the preserved drawings tell us an interesting story about the dining room space. The drawing 91/26 (Fig. 4-32) shows us the general layout of the flat. It seems that the left side of the staircase and the wall dividing the largest room with two balconies was the former small flat and the right side the former big one. And the Aaltos appeared to replace the dividing wall with a screen wall that has a sliding door. To be fit for a social reception, the dining room with a balcony needed to be re-designed or to have a new layout. They had tried several layouts of the dining room with a dining table and furniture (Fig. 4-33), and reached an elaborated conclusion as in the drawing 91/28 (Fig. 4-34), which was not realised, regrettably.<sup>59</sup>

[Fig. 4-32] Plan of Gullichsens' former flat <91/26>

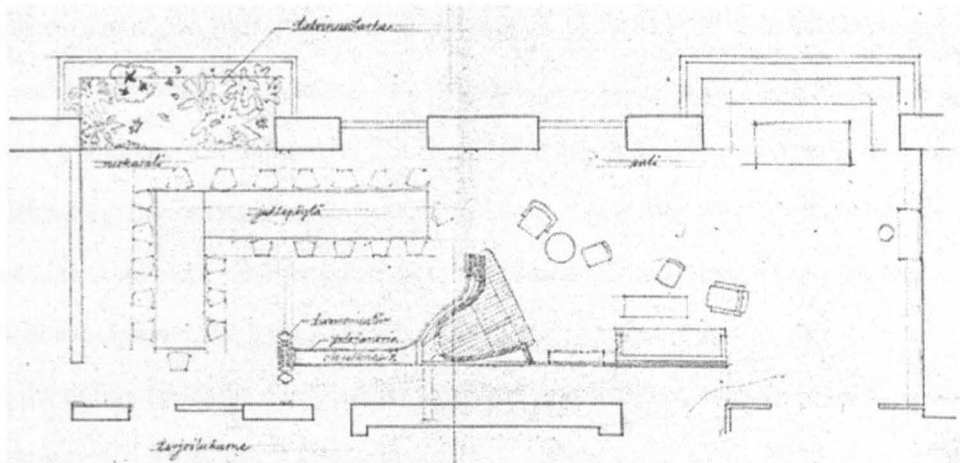


<sup>59</sup> Suominen-Kokkonen, R. ([Renja.Suominen-Kokkonen@helsinki.fi](mailto:Renja.Suominen-Kokkonen@helsinki.fi)) (20 February 2004) *Re: some questions about 'The Interior Design' of Villa Mairea*. Personal email to H.S.Kim ([arq00hsk@sheffield.ac.uk](mailto:arq00hsk@sheffield.ac.uk)).

[Fig. 4-33] Studies of dining room layout <91/29 and 32>



[Fig. 4-34] Dining room and living room renovation of Gullichsens' former flat <91/28>



These drawings clearly show three main topics of the design: dining table; winter garden; and fireplace. Firstly, the dining table, which had been laid horizontally or vertically long in study drawings (91/29 and 32), finally formed an L-shape with many chairs. The early drawings of the table imply an extendable structure, but it must have been insufficient. So, it was replaced two long ones. This ultimately tells the clients' purpose of this renovation, that is, to receive many guests. The walnut dining table design was carried out through several drawings (91/36 and 52-55). According to Suominen-Kokkonen (1998), the large dining table was moved to

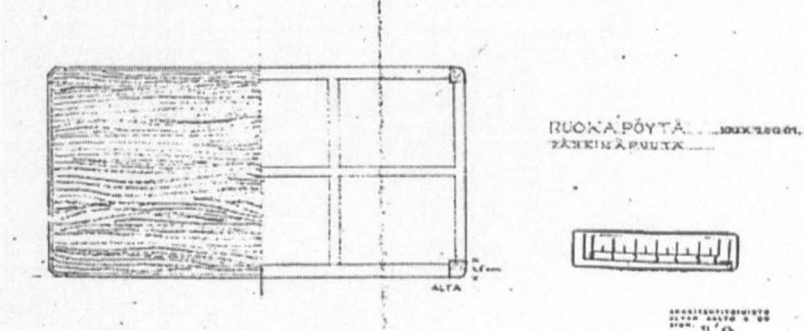
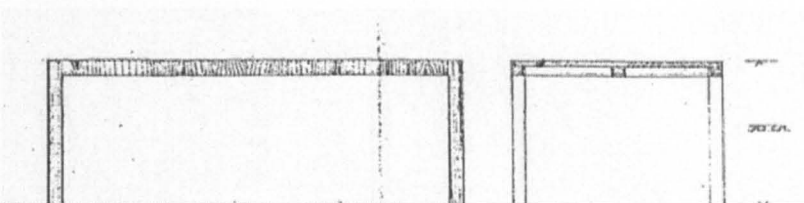
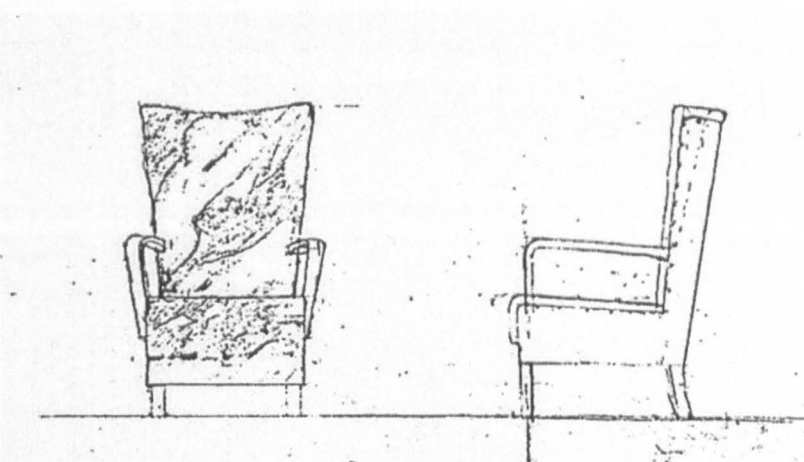
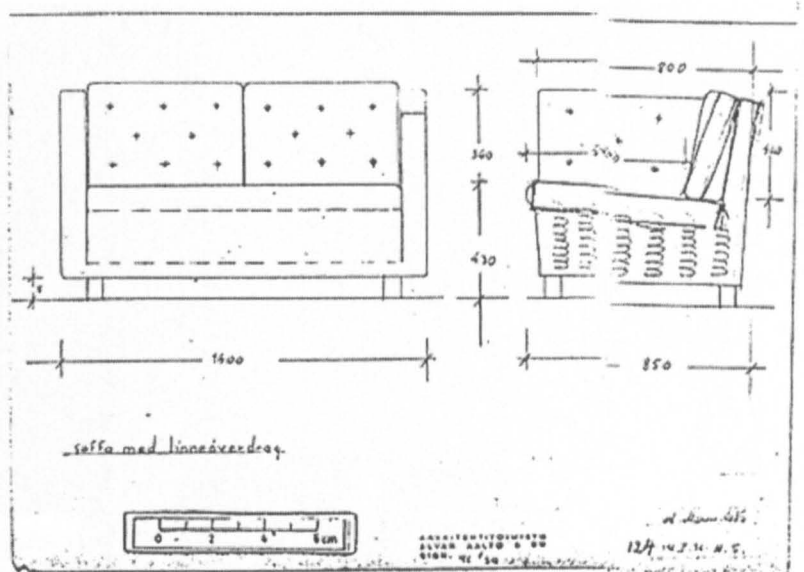
the Villa Mairea.<sup>60</sup> That is one reason that Aalto had persisted in the long dining room with a long dining table all through the Villa Mairea design phases. Secondly, the balcony was transformed into a small winter garden (TALVIPUUTARHA). This winter garden, right beside the dining table, allows diners to enjoy green plants, too. This winter garden concept is reflected in the Villa Mairea design in two ways. The first is in the conservatory before the breakfast room in the Early Version 1, which is a direct application. The second is the winter garden or flower arranging room in the living area of the final version. Instead of the winter garden, the dining room of the final Villa Mairea has a large window, through which one can get a fine view of the courtyard and the pine forest. Thirdly, the curvy fireplace in the unexecuted drawing has an Aaltoesque humorous gesture. It opens its large mouth towards the diagonal corner of the living room with its back to the dining room. And there are several chairs and tables around the hearth. The dining room is closed half by the fireplace, whose arm hides a foldable wall behind it. The fireplace shape reminds us vividly of the image of a potter kneading clay with his hands to make pottery. This morphology of the fireplace directly succeeded to Asplund's summer house of the next year, and also to the Villa Mairea and other Aalto's house designs like Villa Kokkonen (1967-69) and Villa Skeppet (1969-70) (Fig. 4-36). Beside the dining table, the designed furniture includes a sofa, a kitchen sink unit, a cupboard, a leather-covered armchair, a telephone table, a dining room ramp, etc. – two third of the remaining drawings are for the furnishings. In particular, the sofa drawing 91/39 (Fig. 4-35), stamped 'Artek standard somm.' and signed 'A. Marsio-Aalto', shows the connection between Gullichsens' residence and Artek furniture, which is a natural consequence because Gullichsens and Aaltos are the company's founders. The Villa Mairea would be filled with many more Artek products, well assorted in size and quality, although Mairea furniture was basically designed solely for the luxurious villa.<sup>61</sup> Despite the clients' former flat renovation being a small project, it illustrates some important facets of the soon-coming big venture.

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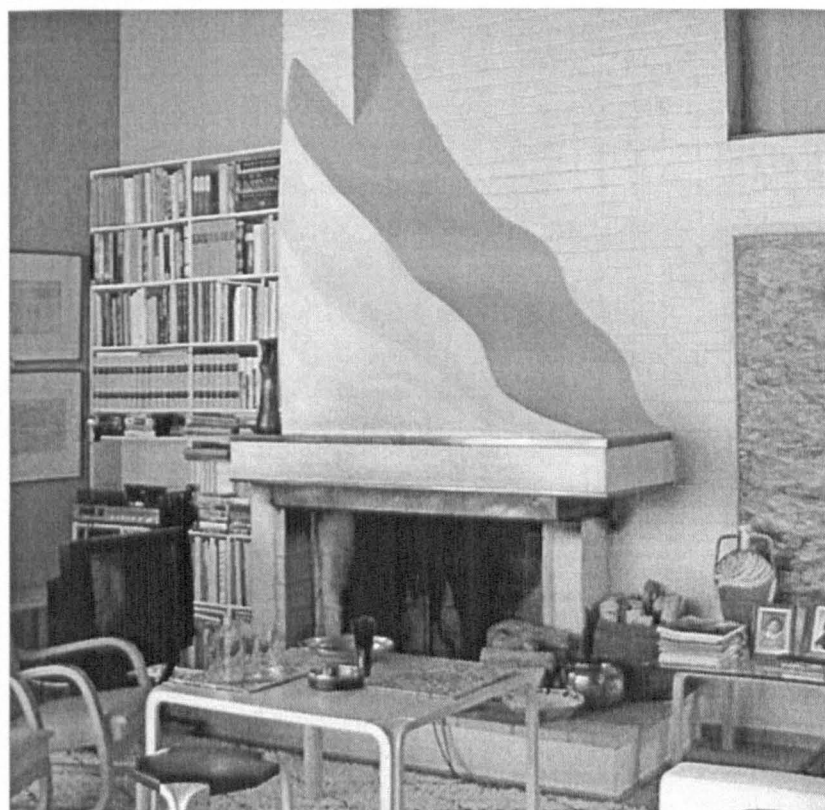
<sup>60</sup> Suominen-Kokkonen, R. (1998) 'The Interior Design'. In Pallasmaa, J. (ed.) (1998) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, p. 129

<sup>61</sup> Suominen-Kokkonen, R. (1998) *op. cit.* p. 126.

[Fig. 4-35] Sofa design stamped 'Artek' and signed by Aino <91/39> (top), armchair design <91/47> (middle) and walnut dining table (91/53) (bottom)



[Fig. 4-36] Fireplaces of Villa Kokkonen in Järvenpää, 1967-69 (top) and Villa Skeppet (Villa Schildt) in Tammissaari, 1969-70 (bottom)



**Chapter 5.**  
**Villa Mairea, The Experimental Laboratory**



*The only real laboratory is the free laboratory,  
where the master can do what he likes. ... Luxury  
housing is probably morally right if you use it as a  
testing ground and a laboratory.*  
Alvar Aalto, 1950 (Schildt, 1997, p. 188)

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## Chapter 5.

### Villa Mairea, The Experimental Laboratory

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The individual architectural assignment can be treated as a laboratory experiment of sorts, in which things can be done that would be impossible with present-day mass production, and those experiments can spread further and eventually become available to one and all as production methods advance. (Aalto, 1939)<sup>1</sup>

Aalto, who wheeled around towards the 'International' rationalism from his neoclassical tendency with the design of Turun Sanomat building in the late 1920s, had a remarkable transition again to more humanised and naturalised modernism around the mid 1930s. With regard to the second conversion, Schildt (1986) described that 'he half-consciously moved farther and farther away from Rationalism, driven by his artistic daemon and by his feeling for the human and natural.' This kind of achievement on Aalto's part has been called 'romantic modernism' (Pearson, 1978), 'synthetic functionalism' (Pallasmaa, 1998b), 'organicism' (Frampton, 1998), and the like. And if we look to Aalto's own words, he tried to 'humanize architecture' throughout his life's work: 'Technical functionalism is correct only if enlarged to cover even the psychophysical field. That is the only way to humanize architecture.'<sup>2</sup>

Akira Mutto (1983) attempted to draw a genealogical tree of Aalto's major works. In the commentary to the illustration, he said:

The architecture of Aalto transformed from classicism to modernism through Turun Sanomat and Paimio Sanatorium in the late 1920s. And then it

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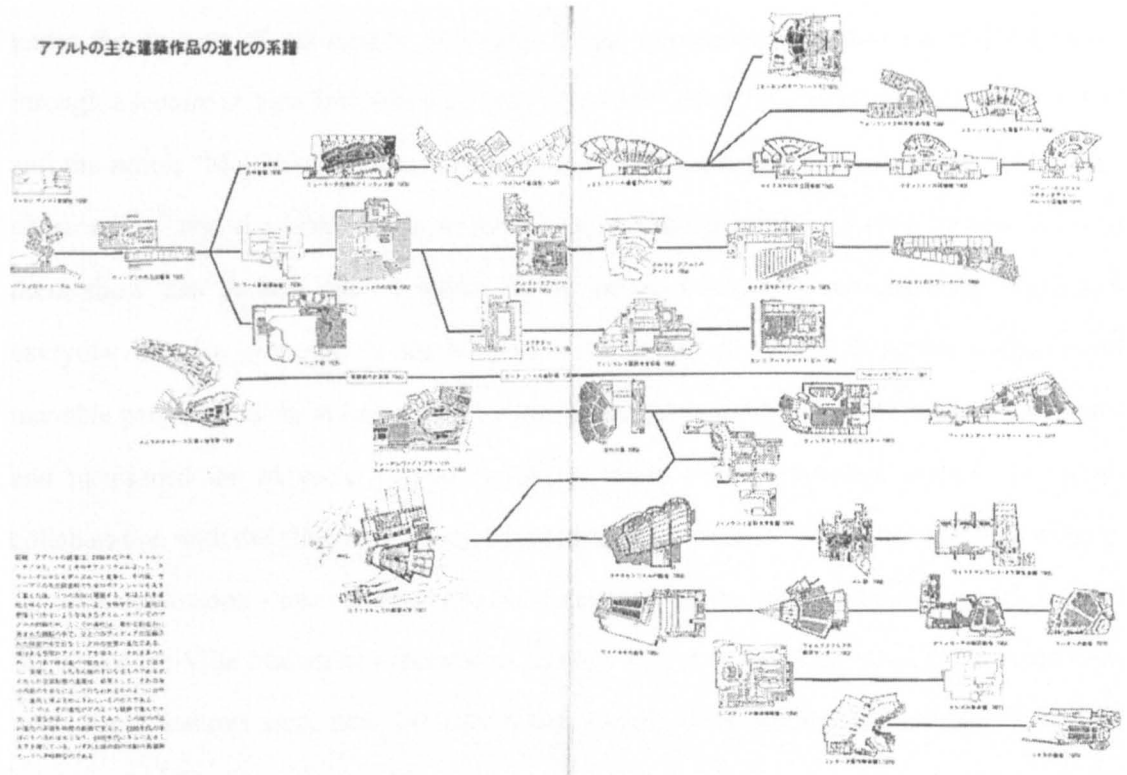
<sup>1</sup> Aalto, A. (1939) 'Mairea', *Arkkitehti*, no. 9. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki.

<sup>2</sup> Aalto, A. (1940) 'The Humanizing of Architecture', *The Technology Review*, November 1940. Republished in: Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, pp. 102-107.



accumulated potential for life in Viipuri Library, which was followed by developments in three directions. I think that it can be called 'evolution'. ..... If we see the evolution of his works in chronological order, the stream became wide in the mid 1930s, and far wider and bigger in the 1950s.<sup>3</sup>

[Fig 5-1] Genealogical tree of Aalto's major works by Akira Mutto (1983)



In spite of the problematic linear developmental perspective,<sup>4</sup> this illustration allows a hurried peep at the constellation of Aalto's masterpieces. According to Mutto's genealogical tree, the Villa Mairea is regarded as the first work of one of the three directions in the period of 'evolution', which exactly corresponds to his move to the capital city, Helsinki. Although he

<sup>3</sup> Author's translation from Japanese into English. Mutto, A. (1983) 'The Architecture of Alvar Aalto – The Vicissitude of its Evolution'. In Nakamura, T. (ed.) (1983) *Architecture and Urbanism*, May 1983 extra edition, A+U Publishing Co., Tokyo, pp. 15-26.

<sup>4</sup> It assumes a serious fallacy that Kroeber pointed earlier in his *Anthropology* (1923), that is, the confusion of 'organic phylogeny' and 'cultural phylogeny'. Concerning this discussion, see Steadman, P. (1979) 'The Darwinian analogy', *The Evolution of Designs*, Cambridge University Press, London, New York, Melbourne, pp. 101-102.

had a difficult time in the new situation for a couple of years,<sup>5</sup> he proceeded with his career without ceasing and took a dramatic turn for the better with the Finnish Pavilion entries in Paris Fair of 1937.

As already mentioned, Aalto could undertake vigorous experimentation in the Villa Mairea under the support of the clients. His spirit in the experimentation was directly expressed through a lecture at Yale University on May 9 in 1939, titled 'The Home of a Rich Collector' and the article 'Mairea' cited above.<sup>6</sup> The former was delivered while the house was under construction<sup>7</sup> and the latter seems to have been written just after its construction. Both of them show that Aalto's main concern in the house was the interrelationship of art and everyday life. He proposed 'a single large living room of about 250 square meters' with movable partitions as the solution. Besides this, he described the courtyard as 'the focal point', and mentioned the movable external walls,<sup>8</sup> a living room ventilation system, and close collaboration with the clients. After all, he regarded the house as an 'experimental laboratory' for wide application – even to mass-produced housing. In this thesis, I define the architectural themes of the Villa Mairea as experiments. It does not mean that every trial in the house was new. Some features were new, but others had already been attempted in earlier designs or were even traditional concepts. What was important is that Aalto was able to test and develop many seminal concepts in the house, making use of this rare opportunity, and that the concepts were, indeed, actively applied to and continually refined in his later works. It is hard to imagine what the Aalto's post-war design might have been like if it had not been for the vigorous experimentation in the Villa Mairea. Therefore, it is fruitful to explore the experiments in this 'laboratory' for understanding the architecture and the architect. I divide the experiments into three categories: typology; space; and reconciliation of polarities,

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<sup>5</sup> About his unsuccessful work and bad health situation in his first years in Helsinki, see Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, Rizzoli, New York, pp. 102-121.

<sup>6</sup> The full scripts of both were published in Schildt, G. (1997) *op. cit.* and see 'Chapter 2.4. Aalto's Own Description of Villa Mairea'.

<sup>7</sup> At that time, Aalto visited America for the Finnish Pavilion at the New York Fair, 1939. Schildt, G. (1986) *op. cit.* pp. 172-180.

<sup>8</sup> He seemed to mean the large living room windows by the movable external walls.

and each category is again composed of sub-themes. There is an implicit logic in this categorisation and its order, despite frequent mutual intersection. 'Typo-morphology' is more about the form in the plan and the actual building while 'space' is more about the content. Thus, the former could be noticed more easily than the latter. And 'reconciliation of polarities' is ubiquitous in the house, so it might be regarded as the main theme of the Villa Mairea. Even so, these cannot cover all the stories about the house, and I did not attempt to, either. But I am sure that the themes can be key mediators to depict the architect's concerns in the Villa Mairea design. I hope to show here how Aalto experimented with these themes, how they resounded in his other works, and what they mean to architecture before and after.

## 5.1. Experiment with Typo-morphology

The word, 'type' can be defined in several ways in architecture depending on the point of view. Above all, it might be used in a similar way to the word 'style'. So, facing the term of 'Gothic type' or 'Renaissance type', we are easily reminded of Gothic style or Renaissance style buildings in architectural history. Secondly, we use 'type' to indicate the function or purpose of the building, as Pevsner did in his lectures (1970) and book [A History of Building Types] (1976). He divided buildings into many types, for example, national monument, museum, railway station, etc. Lastly, it connotes a form, namely, morphology<sup>9</sup> and a formal disposition. If we mention 'box type building' and 'a type of hamlet that has a court surrounded by several farmhouses', we soon relate them with their formal issue. In this thesis, I mean by 'type' this last morphological matter and use a compound word, 'typo-morphology' to clarify the meaning. However, I applied it here rather loosely because I concentrate on one specific object – the Villa Mairea – rather than a series of buildings.

The typo-morphology of a building is directly perceived by people because of its formal concerns, and it even dominates the image of the building. In fact, the typo-morphology is recognised more easily through drawings than actual buildings in many cases – in actual buildings, we perceive it little by little by spatial experience. A birds' eye view might help us to understand it generally, but it is hard to perceive the typo-morphology as a whole when we are at one spot in a building. It is a matter of course because architects design buildings on a drawing board at small scale, and, moreover, even clients and referees of architectural competitions are apt to appreciate the building through the plans and models. To sum up, the typo-morphology is the primary factor to dominate a building's impression. In a former chapter, I pointed out some typo-morphological subjects through the whole design process of the Villa Mairea. Among them, I will describe here the most salient features: L-shaped plan; enclosed courtyard; volumetric point; and curvilinear elements.

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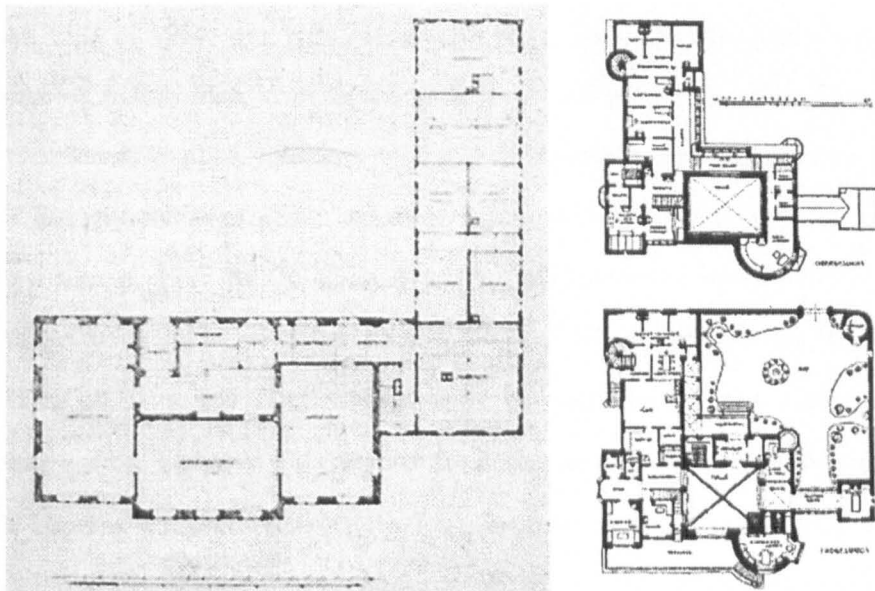
<sup>9</sup> The root of 'morphology' is Greek, *morphē*, which means form.

### 5.1.1. L-shaped Plan: Hierarchy, Orientation and Enclosure

From the first proposal of late 1937, Aalto had continually adhered to an L-shaped plan for the Villa Mairea as shown in many drawings of the design process. In relation to this, Porphyrios (1982) emphasised the Danish prototype of aristocratic residences that has hierarchy in its wings.

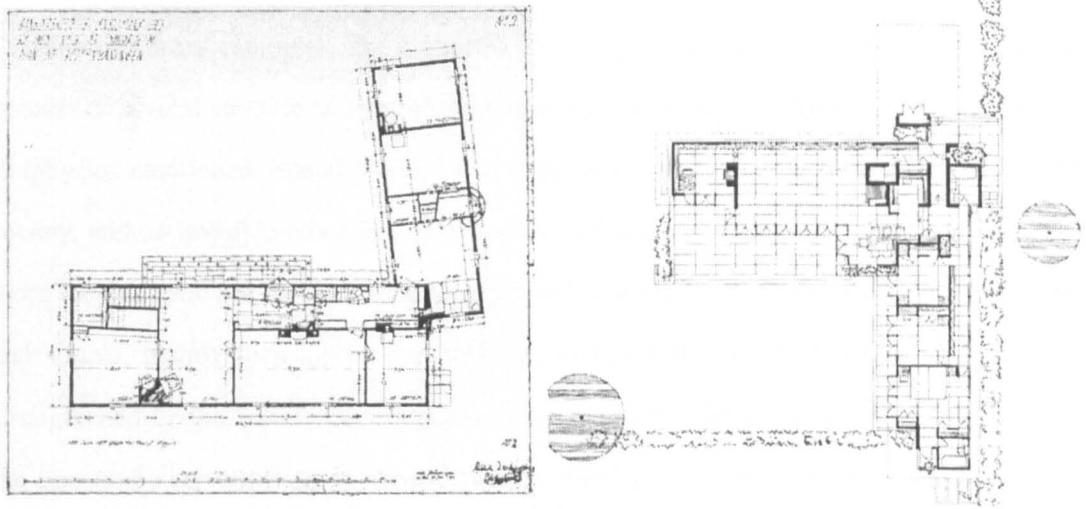
These gestures (L-shaped plan with the main wing and the thin tail) become significant only when one traces the background of the aristocratic Scandinavian residence and its transposition into the twentieth century bourgeois villa. The Danish aristocratic manor, as for example the Barritskor Manor House at Jutland, was a compact classicising villa in plan with a wing added to its side for servant and domestic preparation. The wing was thinner, lower, underplayed and hierarchically inferior.<sup>10</sup>

[Fig. 5-2] Barritskor Manor House in Denmark, 19 C (left) and Suur-Merijoki manor by Gesellius, Lindgren and Saarinen, 1902 (right)



<sup>10</sup> Porphyrios, D. (1982) *Sources of Modern Eclecticism*, Academy Edition, London, p. 36.

[Fig. 5-3] Asplund's Snellman House at Djursholm, 1919 (left) and Wright's Rosenbaum House, 1935 (right)



In his following sentences, Porphyrios tried to prove the linkage of the Villa Mairea to the Danish origin along with illustrations: Barritskor Manor House of 19<sup>th</sup> century, Danish Arts and Crafts architect Klint's villa project of 1906, Asplund's villa at Djursholm of 1919, Gösta Juslén's Villa Abbas of 1933, Aalto's own house in Munkkiniemi of 1934, Vähäkallio's Kaukopää Villa of 1934, and Villa Mairea. However, we cannot conclude that this was the only source of Aalto's idea. With regard to the L-shaped plan of the Villa Mairea, Frampton (1980) mentioned 'explicit reference to National Romanticism' and Finnish artist Gallén-Kallela's Ruovesi studio of 1893, and Suominen-Kokkonen (1998) took for example Suur-Merijoki manor of 1902 by Gesellius, Lindgren and Saarinen. These Finnish middle class houses under the mood of so-called 'Finnish National Romanticism' were largely influenced by the English Arts and Crafts Movement. In addition, we can find another strong development of the L-shaped plan beyond the European context: most of all, in Frank Lloyd Wright's Usonian houses. According to John Sergeant (1976), his Usonian houses can be categorised into five types: polliwog; diagonal; in-line; hexagonal; and raised (see Fig. 5-124). Among them, the 'polliwog' type is based on the L-shaped plan, to which Jacobs House (1938) and Rosenbaum House (1939) belong representatively. This polliwog type of Usonian house had already been foreshadowed during Wright's Oak Park years through the stepped

plans of houses, and his design also reflects the architecture of the East Asia.<sup>11</sup>

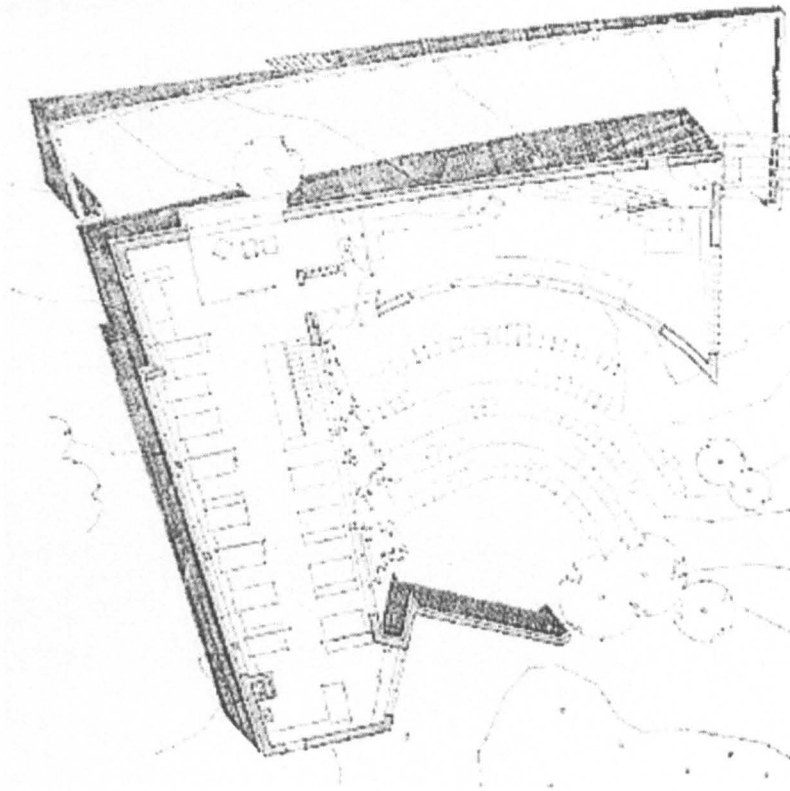
Considering these examples, the L-shaped plan of a house is one result from a dialectical process of several conditions. First of all, hierarchy is an important issue in the type of plan as Porphyrrios mentioned. Social hierarchy was the most powerful social order in a pre-modern society, and its invisible ethos had materialised in bourgeois villas. The main wing is usually more spacious and has more complex spatial organisation, whereas the servant wing is thinner and simple, mainly focusing on servants' housework. Particularly, this hierarchy in plan is strengthened by the volumetric emphasis in Asplund's Snellman House at Djursholm, where the one-storey servant wing is narrow and low beside the massive two-storey volume of the main wing. This kind of social hierarchy in one building is rather antinomic to Aalto if taking into account of his and the clients' utopian dream of classless society at that time. However, their reformist conviction might not be incompatible with 'spatial' hierarchy. And, we cannot judge everything from the viewpoint of the present. The clients were extremely rich people and naturally took it for granted that they would have servants. In this sense, the hierarchy in the Villa Mairea can be understood from the view of spatial and functional division. By dividing the house into served spaces and service (servant) ones, Aalto endowed the family space with privacy. By adjoining them L-shaped rather than making them one long rectangle, he induced servants to access the served wing appropriately. And the two spaces are mediated by a dining room in between, where 'served' and 'serving' roles frequently cross together. Although incomparably more modest than the Villa Mairea, Aalto's own house also shows this functional hierarchy or order through the division of space and circulation between the family area, working area and the maid's area. On the other hand, the L-shaped and stepped plan is advantageous to orientation and view by enlarging the surface exposed to the open air. Many sketches and early versions of the house imply Aalto's concerns about the orientation towards

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<sup>11</sup> Besides the well-known Japanese influence, Wright himself mentioned the architectural philosophy of Chinese Lao Zi (Lao Tze) and Korean floor heating. About it, 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. Considering the mutual cultural exchange of the East Asian countries, Wright and other Westerner's impression of Japan cannot be limited to the one country.

the sun and the vista. It was typical of Wright's Prairie and Usonian houses, although his Usonian houses do not have such hierarchy as the Villa Mairea and Scandinavian precedents because Wright aimed at 'modest' dwelling<sup>12</sup> for democratic society after the Depression – most of Wright's Usonian houses do not have accommodation for living-in servants. As we can see in Rosenbaum House (1939), 'the purest example of Usonian house' (Sergeant, 1976), the stepped corners were designed to access the outside and to draw sunshine and a view to the inside. Lastly but most significantly, I think, the L-shaped plan is critical in enclosing a courtyard. Using the two wings, which embrace the courtyard, the Villa Mairea secured its own paradise garden. The enclosed courtyard will be described in the next section.

**[Fig. 5-4] Aalto's Studio House at Tiilimäki in Munkkiniemi, 1955**



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<sup>12</sup> Wright, F. L. (1938) 'Usonian House for Herbert Jacobs', *Architectural Forum*, January 1938, pp. 78-83.



Among his later works, it is Aalto's summer house (1953) in Muuratsalo (see Fig. 5-13) and studio house (1955) near his own house that show this typo-morphology best. Particularly, his studio house is very unique in producing a slightly deviated angle from 90 degrees, and each wing does not take a rectangular form. This sophisticated form could be regarded as an evolved type of the L-shaped plan. It reminds us of Asplund's Snellman House (1919) and summer house (1937), but it assumes more liberation and delightfulness than them in that we can hardly find a conventional right angle in any corners of the plan. In fact, Aalto's deliberate play of the form was intended to serve an important function. The skewed wing and the curved wall make the courtyard amphitheatre converge into the stage, and the whitewashed wall screen in the stage was originally for slide projection from the studio behind the convex glass wall. Although Aalto had no chance to give a lecture using it<sup>13</sup>, he created a wonderful alternative meaning for this type of plan.

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<sup>13</sup> Schildt, G. (1986) *op. cit.* p. 199.

### 5.1.2. Enclosed Courtyard: 'Finnishness' of Finnish Architecture

The enclosed courtyard in the Villa Mairea cannot be thought of separately from the L-shaped plan of the house as I emphasised above, because two sides of the court are enclosed by its wings. In all the early sketches up to the 'Proto-Mairea', the courtyard had been completely enclosed by the exterior walls as well as the main body of the house. And, from the Early Version 2, Aalto deleted the detouring road that goes around the exterior wall. This treatment strengthened the security of the courtyard, which became a secret garden for the insiders. An enclosed courtyard gives people both physical and psychological comfort. Spatial inwardness expresses a man's basic instinct for securing privacy and even self-defence, which might originate from the forgotten memory of a mother's womb. The existence of an exterior wall, which prevents outsiders from interrupting insiders, guarantees the insiders their own area. And it creates an abundant meaning and metaphor of open and closed, interior and exterior, public and private, dwelling and being, etc. Having an enclosed courtyard has been a widely held concept in architectural history. Thinking of Aalto's interest in Roman architecture since his early years (Schildt, 1984), Roman atrium houses are easily recalled. Indeed, he really designed an atrium type house for his brother Väinö in 1925, which has a square atrium open to the sky at the centre of the plan. Similar type houses to the Roman Domus existed in many places around the Mediterranean Sea, which are in fact prototypes of it. They are, for example, a house of Gay Street in Ur (BC 19-18 C), a house of Merkes district in Babylon (BC 8-7 C), and a house of Delos in Greece (BC 3 C).<sup>14</sup> Furthermore, town structures of Marrakesh (Morocco) show 'quadrangular houses organized around interior courts'<sup>15</sup>, and this typology is also found in Siheyuan (四合院), Beijing's typical housing, across the continent.<sup>16</sup>

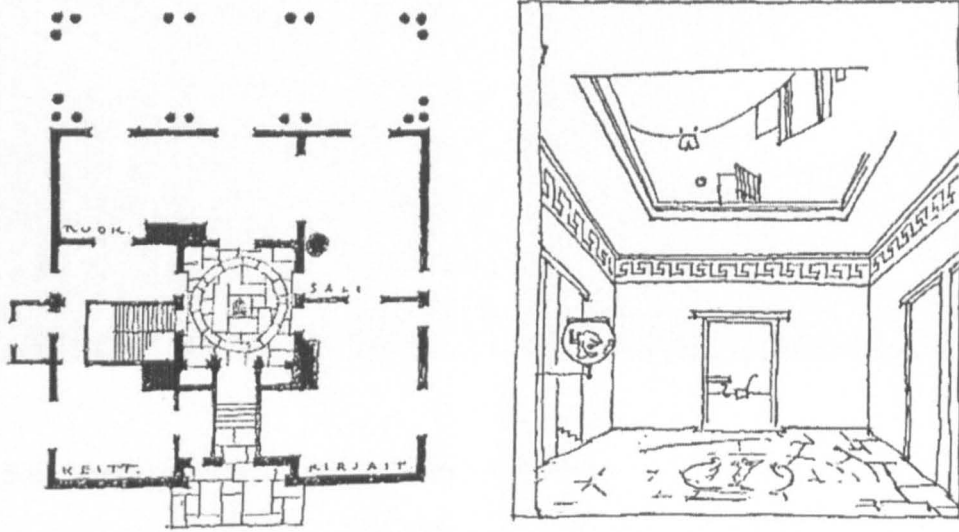
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<sup>14</sup> Sohn, S. K. (1993) *A History of Urban Housing*, Yolhwadang, Seoul

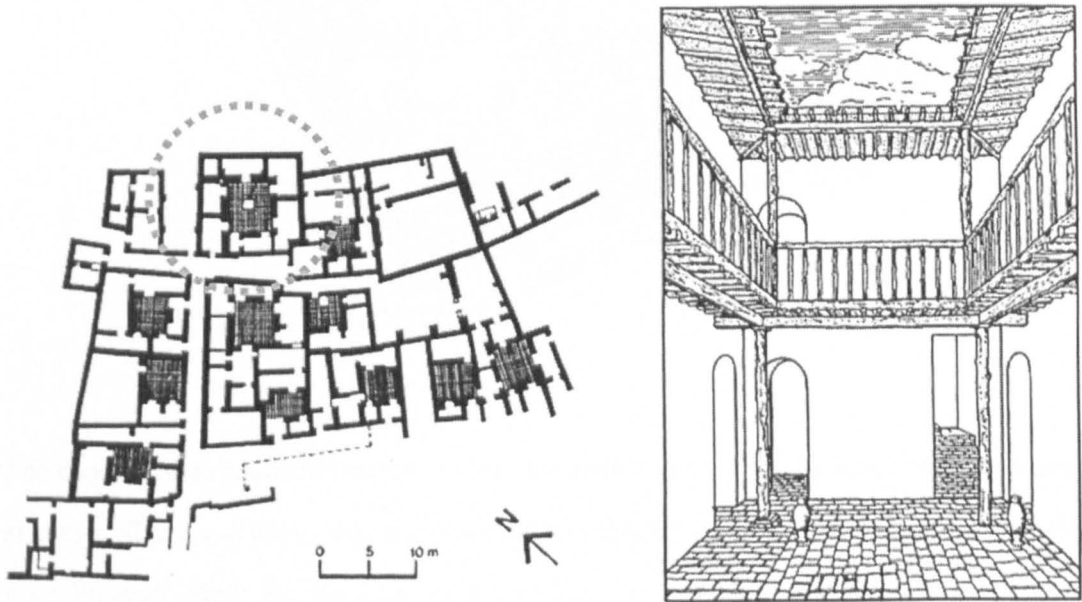
<sup>15</sup> Rudofsky, B. (1964) *Architecture Without Architects*, University of New Mexico Press, pp. 53-54. Aalto himself traveled Marrakesh in 1951 (although it had been ten years since the Villa Mairea was built), and remained many sketches of the houses and the town. See Schildt, G. (1978) *Sketches Alvar Aalto*, MIT Press.

<sup>16</sup> Sohn, S. K. (1995) *Houses of Beijing*, Yolhwadang, Seoul

[Fig. 5-5] Casa Väinö by Aalto, 1925

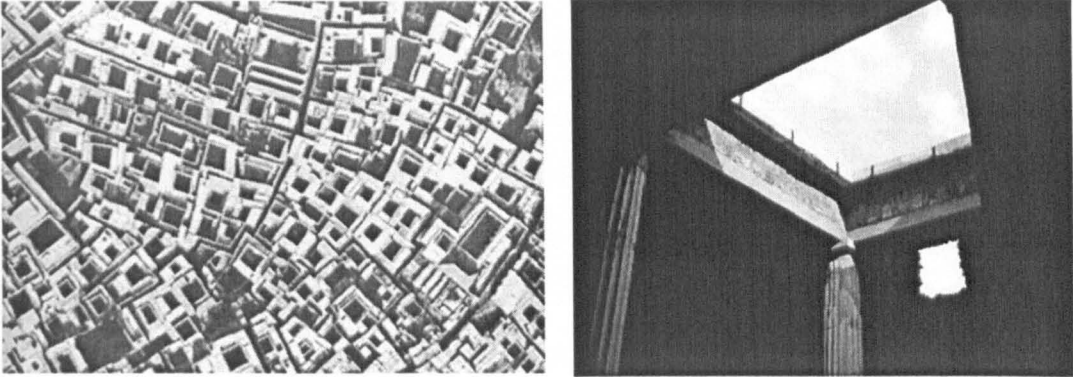


[Fig. 5-6] House no. 3, Gay Street in Ur, BC 19-18 C: housing district (left) and reconstruction image of atrium (right)<sup>17</sup>

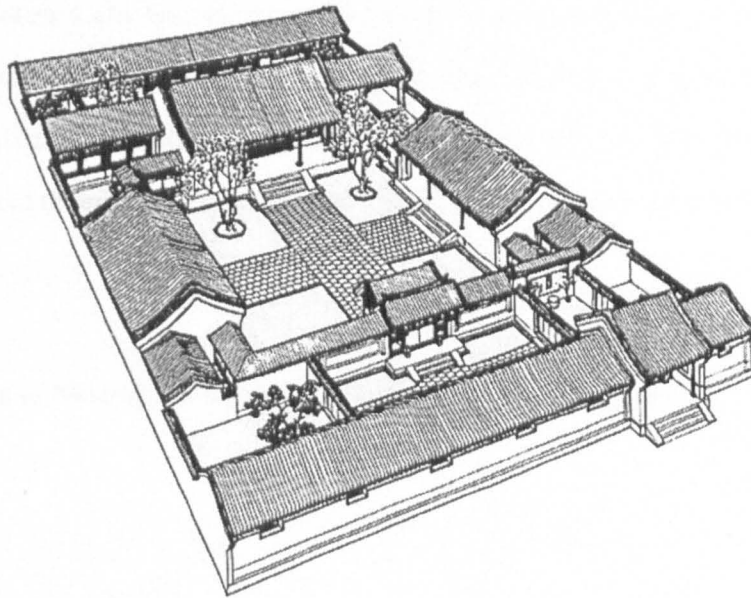


<sup>17</sup> The atrium image was reconstructed on the basis of the excavated ground floor. Wooley, L. (1964) *Excavations at Ur*, Ernest Benn, London, p. 183. In Sohn, S. K. (1995) *op. cit.* p. 33.

[Fig. 5-7] Town structures of Marrakesh (left) and Roman atrium house in Pompeii (right)



[Fig. 5-8] Siheyuan (四合院), Beijing's typical housing

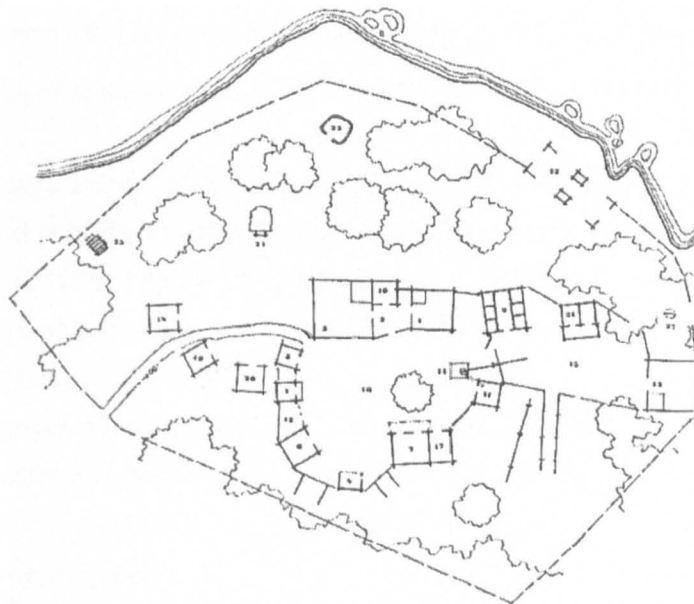


The concept of an enclosed courtyard has been applied not just to one house at micro-scale but also to a village and even a city of a macro-scale. Finnish vernacular farmsteads, especially in west Finland, show the typology of an enclosed courtyard in the dimension of grouped buildings. Aalto might have been familiar with the typology because Ostrobothnia, to which his hometown belongs, had ‘many settlements and hamlets’ of this kind<sup>18</sup>. In such cases many

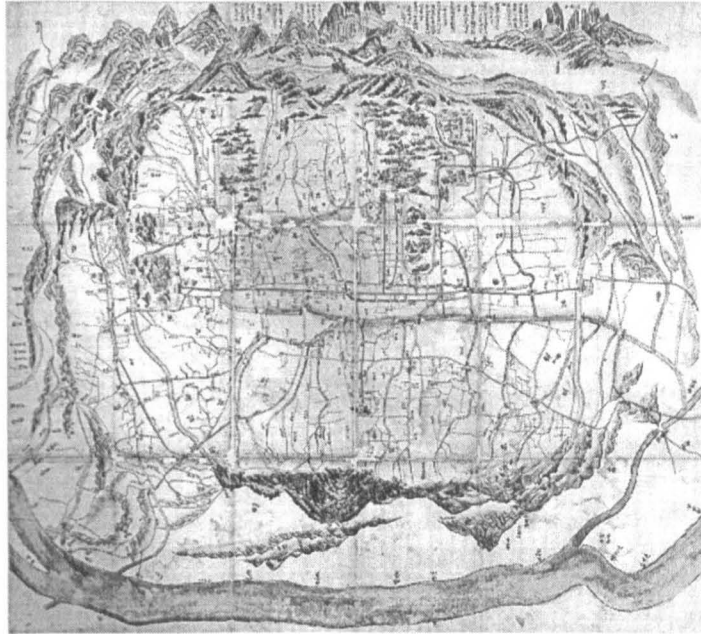
<sup>18</sup> Pearson, P. D. (1978) *Alvar Aalto and the International Style*, Whitney Library of Design, New York, p. 199 and 234.

cottages and sheds form a large shared courtyard. Niemelä farmstead, which was originally in Konginkangas of the central Finland and moved to the Seurassari Open-air Museum in Helsinki, illustrates it well. According to Wickberg (1962), the grouping of small buildings in the Niemelä farm shows ‘a clear attempt to form a yard’. Grouping of the buildings intensifies the security of the farm in the wild forest; and it also offered a good place of a collaborative work for the farmers. In the scope of a city, *Poongsoo* (Korean pronunciation of 風水, *Fengshui* in Chinese and *Hoosui* in Japanese), a kind of geo-philosophy had been applied to the selection and the design of a city in East Asia. In that case, geographical features such as mountains play a critical role, embracing the city and adjusting the stream of *Qi* (氣) through wind (風) and water (水). Leaving aside more detailed discussion about it, the situation that a mountain embraces a city with its arms and makes it a protected basin is a macro version of one house’s enclosed courtyard. Seoul, the capital city of Korea, is a good example of it. To sum up, the action of locating a human dwelling within an enclosed space is a basic motif in architecture from the small scale of a single house to the macro scope of a city across time and place.

**[Fig. 5-9] Plan of Niemelä farmstead in Seurassari open-air museum**



[Fig. 5-10] Tosōng-do (都城圖, map of old Seoul), early 19 C



Although the enclosed courtyard is a basic concept in architecture across time and place, however, it means something more special in Finnish architecture. In his study on Finnish vernacular farmhouses (1977), Ranulph Glanville asserted that ‘the very existence of such courtyards<sup>19</sup> ... is the key to the ‘Finnishness’ of Finnish architecture, from the remotest past right up to the present day.’ He goes even further to extract from the courtyard several themes ‘fundamental to the understanding of Finnish architecture’ like the following.

- a. The courtyard allows *completeness* of any form at any stage, so long as it is understood that the organisation is the courtyard: which is to say that if the courtyard concept has meaning, it does not matter that it is not entirely built around, since by inference it is complete anyhow.
- b. Following this, buildings can be *extended* to fill up the courtyard space: that is, there is a principle of *adding things on* to the already existing.
- c. Further, place and place sequences are organised so that each function has its

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<sup>19</sup> Glanville means by a courtyard in Finnish farmhouses not only an external courtyard (general meaning) but also an internal courtyard (living hall). About it, see Glanville, R. (1977) ‘Finnish Vernacular Farmhouses’, *AAQ*, vol. 9, no. 1, pp.36-52.

*appointed position* within the general courtyard organisational outline.

d. Finally, there is a subtler understanding of *inside* and *outside* than we might generally expect, which allows courtyards or hallways (ie internal courtyard) to be semi-public spaces, with the differentiation between friend and foe not necessarily being made at the gateway/ porch.

All of which can be summarised as a sensitivity to, and awareness of, place which is surprising.<sup>20</sup>

Among the four themes from the courtyard of the Finnish farmstead, we can consider two transferred to the Villa Mairea – the first, '*completeness*'; and the fourth, '*inside and outside*'. Up to the 'Proto-Mairea', the courtyard had exhibited completeness through the entire enclosure. And, although the exterior walls were stripped off in the final plan, the courtyard still has completeness *per se* 'by inference' as far as it continually intends to remain as such. In fact, Aalto did not just throw away the courtyard walls. Instead, the open sides of the court were elaborately delineated and partly blocked by low height stone walls, a modest hillock, and some shrubs. In the context of the site, the change might be regarded as a natural consequence, because there is no other house around the site, and the pine forest itself became a screen for the house's privacy, so there was no more need to enclose the courtyard. Replacing an artificial wall with other moderate and natural filtering represents the house's further step to naturalness. Rather than pursuing *closed completeness* of the courtyard by isolating it entirely from the environment, Aalto seeks *open completeness*, in the long run, by letting it breathe together with the surrounding forest. On the other hand, the courtyard could be seen as an outdoor inside, that is, another room of the house. Aalto had already conceived this idea in his early years, as it was described in his article 'From Doorstep to Living Room', published in 1926.

The garden wall is the real external wall of the home. Within it, there should be open access not just between house and garden, but also between the

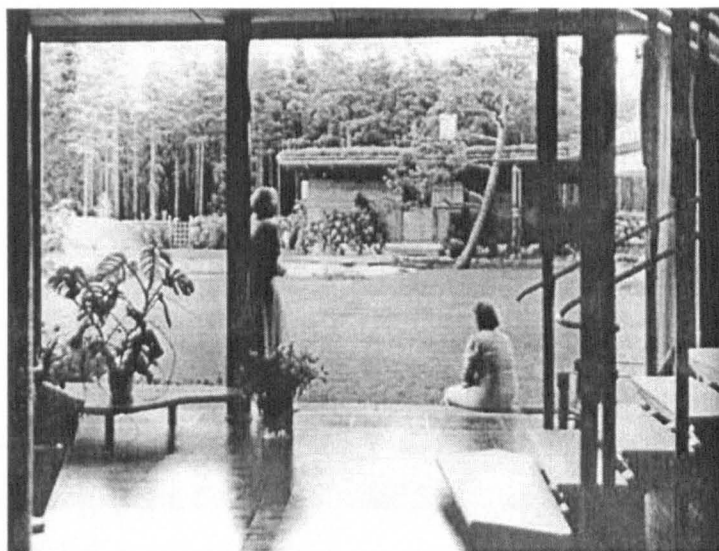
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<sup>20</sup> *Ibid.* p. 45. He even argues that the architectural characteristics have a close relation with the 'unique' Finnish language, which has agglutination, vowel harmony and consonant gradation as its uniqueness.

disposition of rooms and the garden. The garden (or courtyard) belongs to our home just as much as any of the rooms.<sup>21</sup>

As a room in the outdoors, the courtyard of the Villa Mairea is self-contained. It has its own swimming pool, sauna, fireplace and terrace. And the outdoor room was decorated wonderfully with various sorts of flowers and plants.<sup>22</sup> If the large living room windows were removed as intended, the interpenetration between the inside and the outside would occur more actively and the two would become fused. This fusion is accelerated also because the interior – an internal courtyard in Glanville’s terms – represents an outside landscape in the Villa Mairea.<sup>23</sup>

[Fig. 5-11] Villa Mairea living room with windows removed



William Curtis (1996) regarded a courtyard as ‘archetype’ or ‘harbour’ in Aalto’s design.

Aalto felt that there were almost archetypal building configurations expressing

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<sup>21</sup> Aalto, A. (1926) ‘From Doorstep to Living Room’, *Aitta*, Otava, Helsinki. Quoted from Schildt, G. (1984) *Alva Aalto: The Early Years*, Rizzoli New York, pp. 214-18.

<sup>22</sup> Pallasmaa, J. (1998) ‘The Garden’. In Pallasmaa, J. (ed.) (1998) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki.

<sup>23</sup> About the interior landscape, see ‘Chapter 5.2.3. Interior Landscape’.



the basic forms of human society. ... One such archetype was the courtyard or, to be more precise, the 'harbour', formed by an inward-looking perimeter building ... The Villa Mairea had been a variant on this scheme.<sup>24</sup>

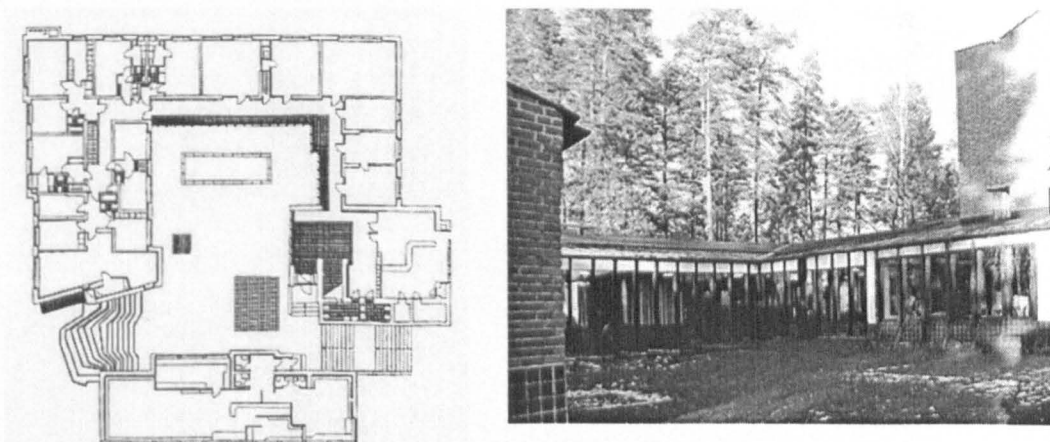
We can find a lot of examples of this typology of an enclosed courtyard in Aalto's later works. These examples could be largely divided into two: one within a single building; and the other formed by grouped buildings. Säynätsalo Town Hall (1949-52) and his own summerhouse (1953) are perhaps the most typical of the former. Säynätsalo Town Hall is in fact composed of two buildings – an U-shaped main building and a rectangular library, but we could say that the library was separated to introduce two stairways to the courtyard. That is to say, it was made subservient to the main building. The most interesting thing in this town hall is the fact that the courtyard was raised and flattened artificially. We have already seen this concept in the Early Version 1, 2 and 3 of the Villa Mairea, and this motif is reminiscent of the Italian hill-towns he admired. In the case of Aalto's summer house, the courtyard is an exact square, and it is enclosed by the L-shaped house on two sides and by exterior walls on the other two sides. In addition, the courtyard is delineated from the outside world not only vertically but also planimetrically by brick floor patterns. Nevertheless, the enclosed court is fused with the surrounding nature through a large opening in one wall and a vertical trellis on the other.

With regard to an enclosed courtyard formed by grouped buildings, many city centre designs by Aalto, such as Avesta Town Centre in Sweden (1944, not built) and Seinäjoki City Centre (1958), belong to this type. In the sense that many buildings form a large courtyard or a plaza, it is reminiscent of Greek Agora or Roman Forum as well as Finnish farmsteads. As we can see in Seinäjoki City Centre, while the parish church and town hall both have their own courts, they also form a large central plaza together with the library and the theatre.

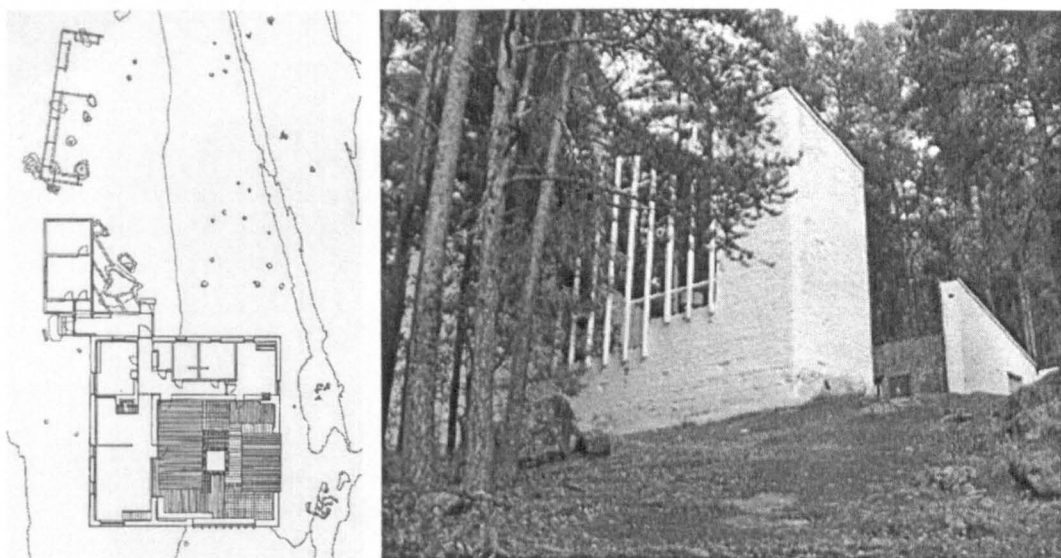
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<sup>24</sup> Curtis, W. (1996) *Modern Architecture Since 1900*, Phaidon, London, p. 456.

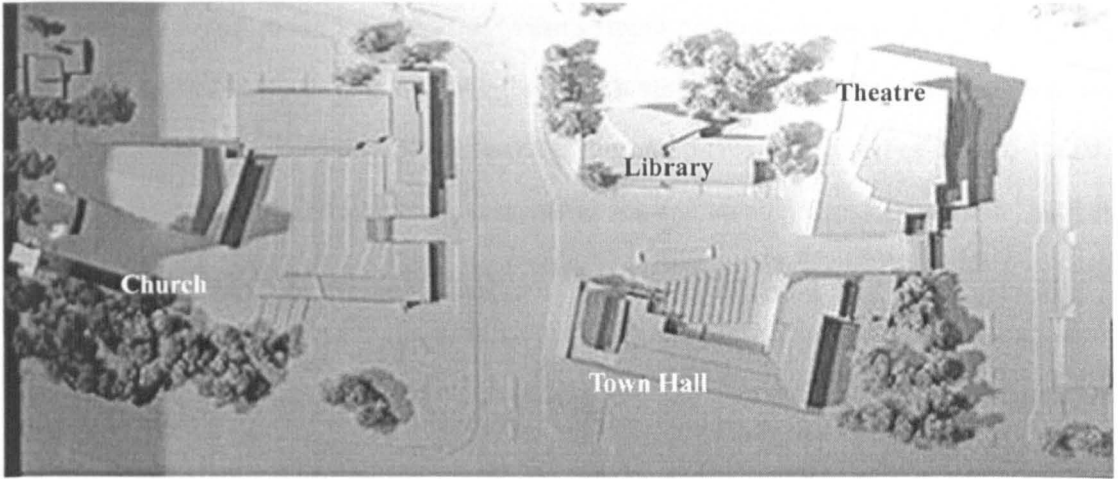
[Fig. 5-12] Säynätsalo Town Hall courtyard level plan and photo, 1949-52



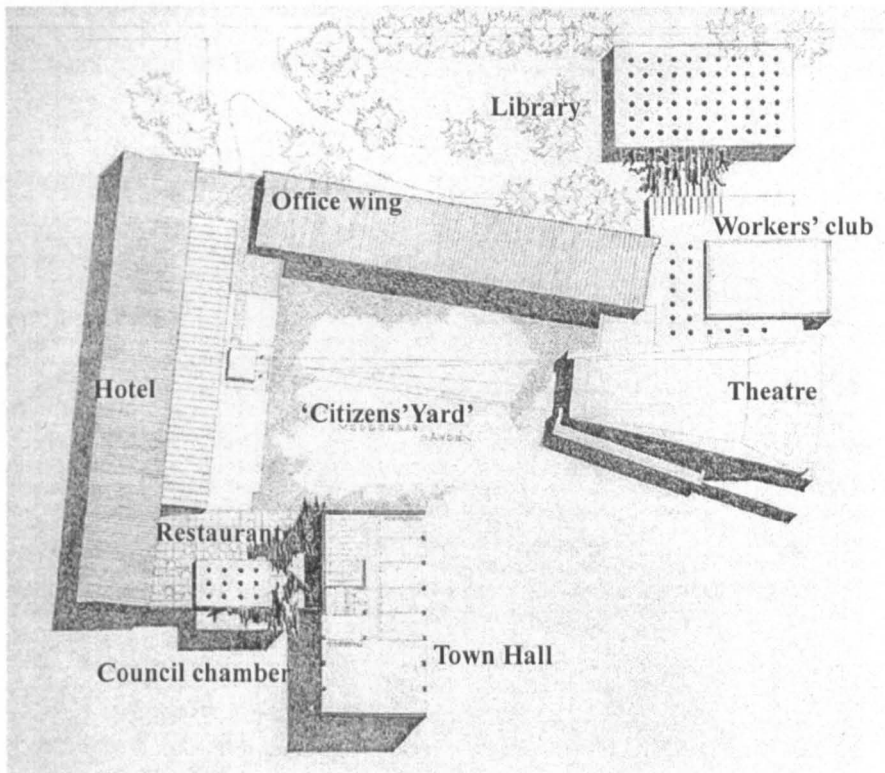
[Fig. 5-13] Aalto's own summer house in Muuratsalo, 1953



[Fig. 5-14] Seinäjoki City Centre model in Alvar Aalto Museum



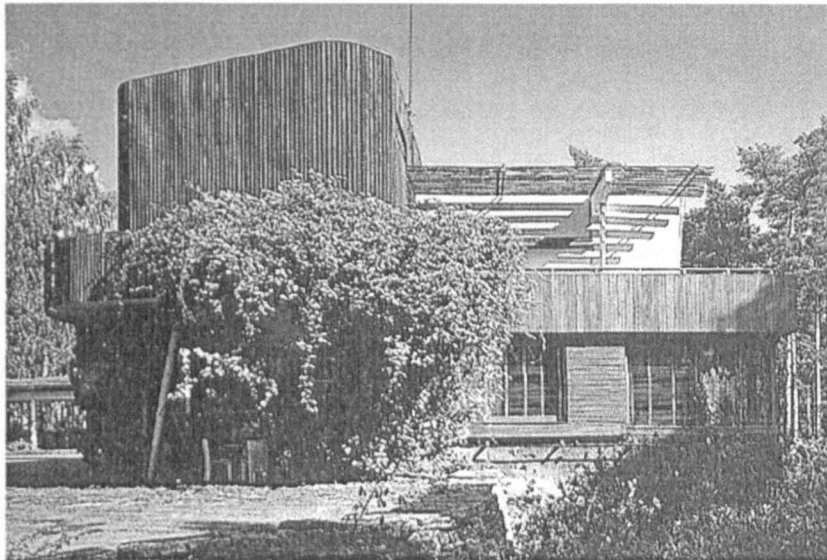
[Fig. 5-15] Avesta Town Centre in Sweden, 1944



### 5.1.3. Volumetric Point: 'Head' or 'City Crown'

Among many rooms in the Villa Mairea, Maire's studio occupies the most dignified position. One of the earliest sketches (*e.g.* 84/164) illustrates it very clearly (see Fig. 3-3). That is to say, the studio stands on top of several horizontal layers and pierces them vertically as the centre of gravity. Moreover, the rough sketch even shows some unique features of the studio, such as a curved roof, a perpendicular mast and vertical claddings. However, the studio volume became less prominent from the outside view during the Early Versions 1 and 2, because it was submerged in the main body of the house. But it could regain its initial prominence in the Early Version 3 when the studio moved up to the upper floor and protruded to the west. In fact, we cannot easily distinguish the studio volume from the front façade in the actually built house, not only because it is not so powerful as in the earliest sketch but also because our eye level is too low to recognise it. Except from a bird's eye view, only when we go around to the left from the front, could we feel the dominance of the studio volume.

[Fig. 5-16] Southwest view of the studio



Nonetheless, it is true that the studio plays a role as a volumetric point in the whole structure of the Villa Mairea. First, the volume is remarkable not only for its mass but also for other

reasons: it protrudes breaking the square of the ground floor; it has a higher ceiling than any other rooms in the house; its dark brown timber claddings are distinguishable from white and red brown walls; and its roof sloped moderately toward the inner court, which is the only sloping roof in the Villa Mairea. Second, the plan is not a rectangle but a trapezium like the earlier courtyard, and the slanted corners are rounded off. Third, the studio has its own terrace and stairs. Fourth, there is a large skylight in the studio ceiling to illuminate Maire's art works.

These characteristics of the studio as a volumetric point make possible the interpretation of 'head and tail'. The 'head and tail' was once mentioned by Stuart Wrede (1980) for his study of Asplund's summer house, and Adres Duany (1986) actively applied it to Aalto's works as a schematic device. According to him, Seinäjoki Town Hall is a clear example that shows the 'head and tail' principle.

The head element houses the special function, in this case a council chamber. It is mass-positive and formally elaborate, and it is finite in the sense of accommodating a program of fixed scope. The tail is the opposite in every way. It accommodates a mundane program of bureaucratic activity within a neutral orthogonal geometry. It is space-positive, and it has the intrinsic potential for expansion.<sup>25</sup>

He explained many other buildings in terms of a duality of head and tail, but the Villa Mairea was not mentioned. Perhaps Curtis's description of 'a curved fish with head, body and tail' (1996) for the Villa Mairea can be related to this principle, in spite of the possibility of falling into the fallacy of biomorphic imitation as Frampton (1980) did.<sup>26</sup> If applying the more diversified triad version of the principle to the Villa Mairea, the studio is, without doubt, a 'head' element with the distinguishable features above. On the other hand, the light brown living room box and the L-shaped white mass could be regarded as a 'body' element, and the

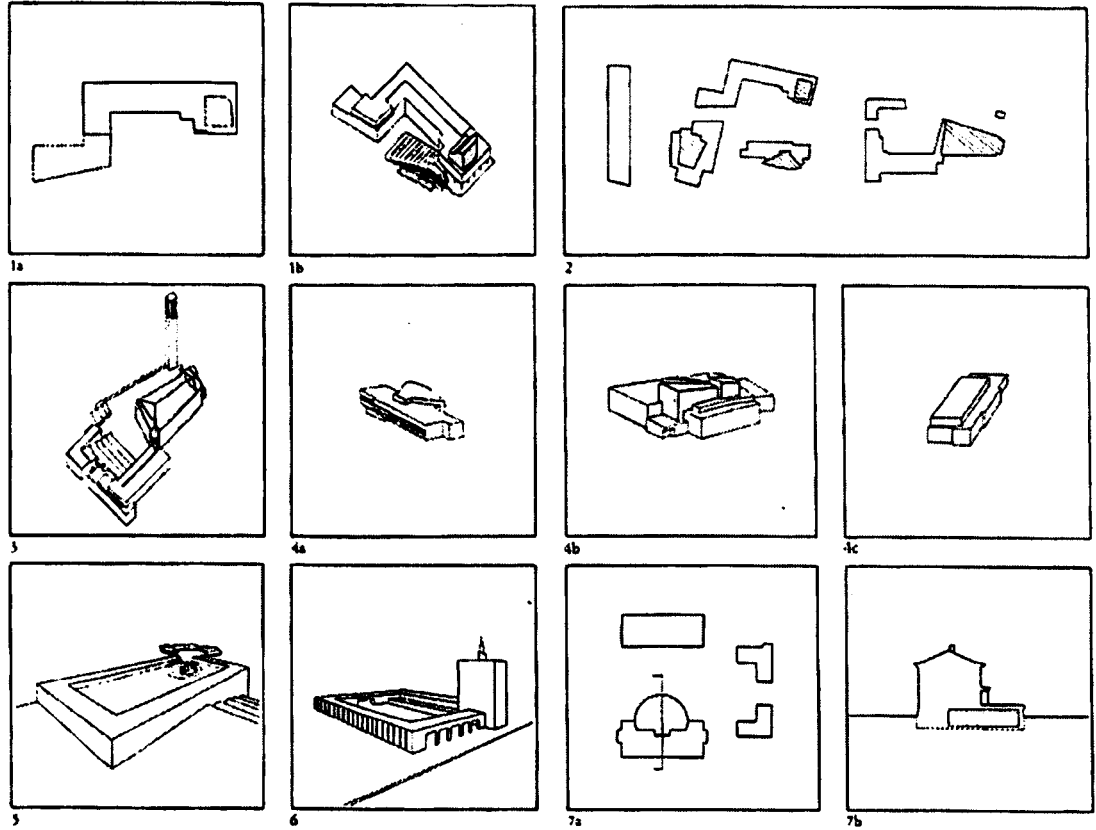
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<sup>25</sup> Duany, A. (1986) 'Principles in the Architecture of Alvar Aalto', *Harvard Architecture Review 5: Precedent and Invention*, Rizzoli, New York, pp. 105-106.

<sup>26</sup> See 'Chapter 3.1. From Egg to Trout: Design Evolution of Villa Mairea'.

sauna and the terrace covered with the long turfed roof is a 'tail'. This composition of 'head and tail' or 'head, body and tail' in the Villa Mairea is clearly articulated in its mass (see Fig. 3-52) and it illustrates the spatial and functional hierarchy within.

[Fig. 5-17] 'Head and tail' composition of Aalto buildings, Adres Duany (1986)



If the typology of a volumetric point or a 'head' element in one building is applied to a town or city scale, it might approach Bruno Taut's concept of *Stadtkrone* or city crown (1919).<sup>27</sup> Taut attempted to symbolise a new paradigm of a 'modern' city through the idea of 'city crown', which parallels a monumental church in a medieval town or a prestigious dome on a neoclassical building. Following Lynch's idea (1960), it can be regarded as a 'land mark' element that decides the image of a city.<sup>28</sup> Porphyrios (1982) suggests the city crown concept

<sup>27</sup> Taut, B. (1919) *Die Stadtkrone*, Diederichs, Jena

<sup>28</sup> He suggested five elements that decide the image of a city. They are: path way, district, edge, land

as an example of Aalto's 'iconographic typology' along with the tripartite articulation of the renaissance palazzo. According to him, the 'iconographic type of the city crown' was represented in Säynätsalo Town Hall that has a honourable council chamber,<sup>29</sup> and continued with variations in later designs, such as Helsinki University of Technology (1955-64), Seinäjoki Town Hall (1961-65) and Finlandia Hall (1962-71). Counter to Duany's 'head and tail' principle that emphasises Aalto's fundamental duality in organising a given programme, Porphyrios asserted through the typology the architect's anachronistic attempt to revive 'the classical/ medieval prototype of the city crown'.<sup>30</sup> As proof, he implicitly highlights the chain between National Romantic and Neoclassical buildings (for example, Östberg's Stockholm City Hall, 1911-23; Högström's Stockholm Central Station competition entry, 1922) and Aalto's civic buildings after World War II when the rationalist modernism went far enough. Though he implied that Säynätsalo Town Hall was the seminal building of the city crown concept, I argue that it had already been tested in the Villa Mairea, or even earlier in his own house. Particularly, if we consider the clients' symbolic and practical importance in Noormarkku and the house's location on the highest hill in the town (see Fig. 3-4), the Villa Mairea bears comparison with Taut's *Stadtkrone*. Therefore, we can possibly say that *the studio of the Villa Mairea in the town becomes the crown of the crown*.

In addition, the typology of the city crown was amalgamated with another element of Aalto's typology, that of an amphitheatre. This can also be verified in the above examples: Seinäjoki Town Hall, Helsinki University of Technology and Finlandia Hall. As we can see from his later designs after the 1950s, his obsession with the amphitheatre type deepened after his visit to Delphi in 1953.<sup>31</sup> The concentrating power of this typology assumes a spatial hierarchy in its metaphor. For this reason, Aalto combined the amphitheatrical organisation with the city

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mark and node. See Lynch, K. (1960) *The Image of the City*, MIT Press, Cambridge, MA.

<sup>29</sup> Frampton also mentioned it shortly. 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, p. 135.

<sup>30</sup> Porphyrios, D. (1982) *Sources of Modern Eclecticism*, Academy Edition, London, pp.26-31.

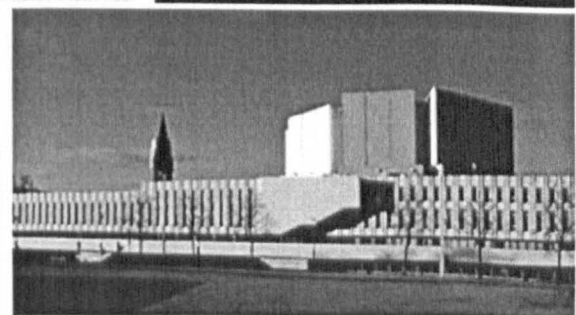
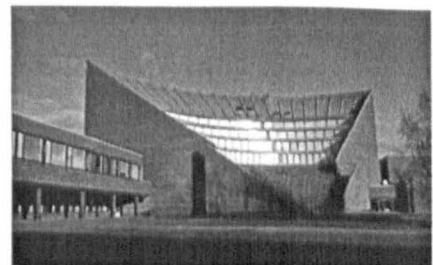
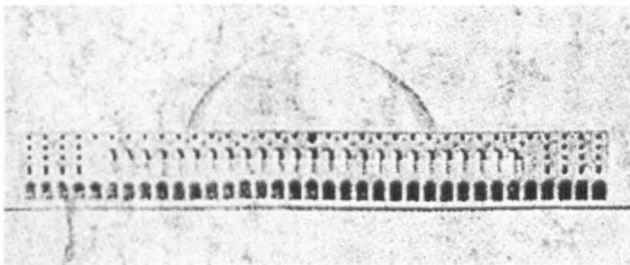
<sup>31</sup> When he travelled around Delphi in 1953, he remained some amphitheatre sketches. See Schildt, G. (1978) *Sketches Alvar Aalto*, MIT Press.

crowns and, as a result, dignified their prestige further.

[Fig. 5-18] Chamber hall of Säynätsalo Town Hall as *die Stadtkrone*



[Fig. 5-19] Högström's Stockholm Central Station competition entry, 1922 (top left), Helsinki University of Technology, 1955-64 (bottom left), Seinäjoki Town Hall, 1961-65 (top right) and Finlandia Hall, 1962-71 (bottom right)

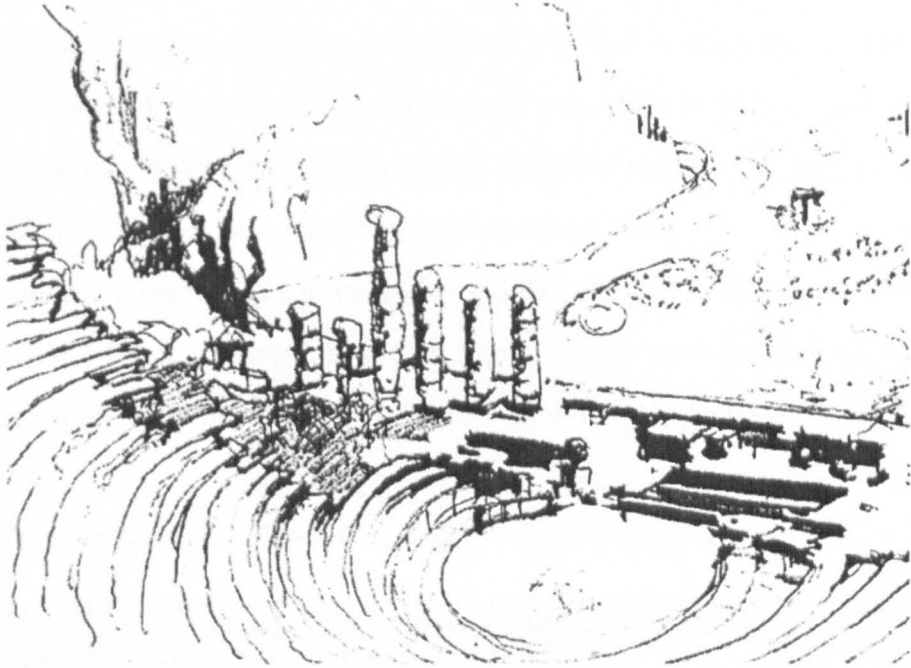




[Fig. 5-20] City silhouette with 'city crown' in Bruno Taut's [Stadtkrone] (1919) (top) and one of amphitheatre sketches by Aalto in Delphi, 1953



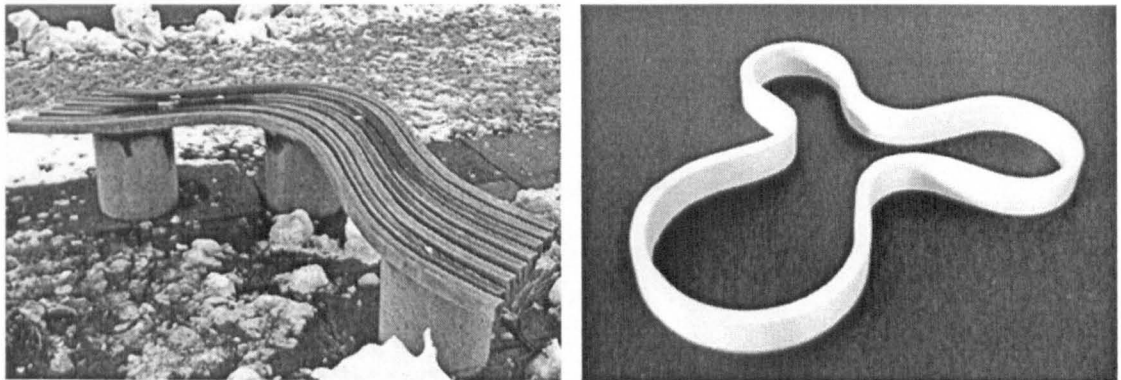
45. Stadtsilhouette



#### 5.1.4. Curvilinear Elements: Rationality and Playfulness

The moment we hear the name of 'Aalto', we are reminded of the idea of a curvilinear element. That is because he really used many curves in his designs, to say nothing of the coincidence that 'aalto' means 'wave' in Finnish. Particularly, the undulating walls of his first debut work in America, the Finnish Pavilion in New York Fair of 1939, played a critical role in determining this impression, along with the bent wood chairs displayed at the Museum of Modern Art in New York one year earlier. Aalto's use of curves must have been more impressive because it seemed to stand against the rectilinear mood of the 'modern movement' and, additionally, because his origin far from the dominant European countries emphasised his uniqueness. Curvilinear benches in front of Jyväskylä Theatre (1964-66) and the Alvar Aalto Museum (1971-73) or irregular-shaped 'Pot Stands', which were awarded prizes in Alvar Aalto's centenary year competition in 1998, confirms this kind of first impression of Aalto.

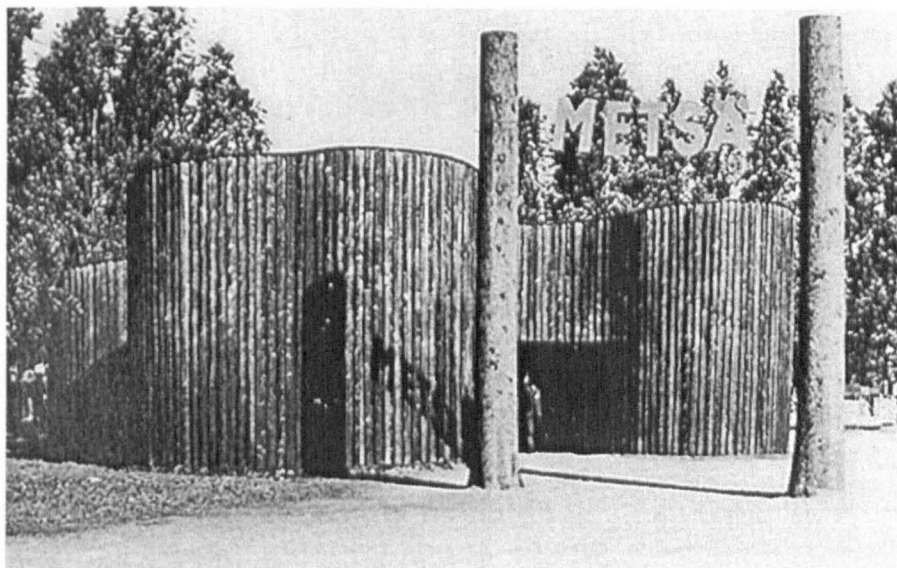
[Fig. 5-21] Curvilinear benches and irregular-shaped 'Pot Stands'



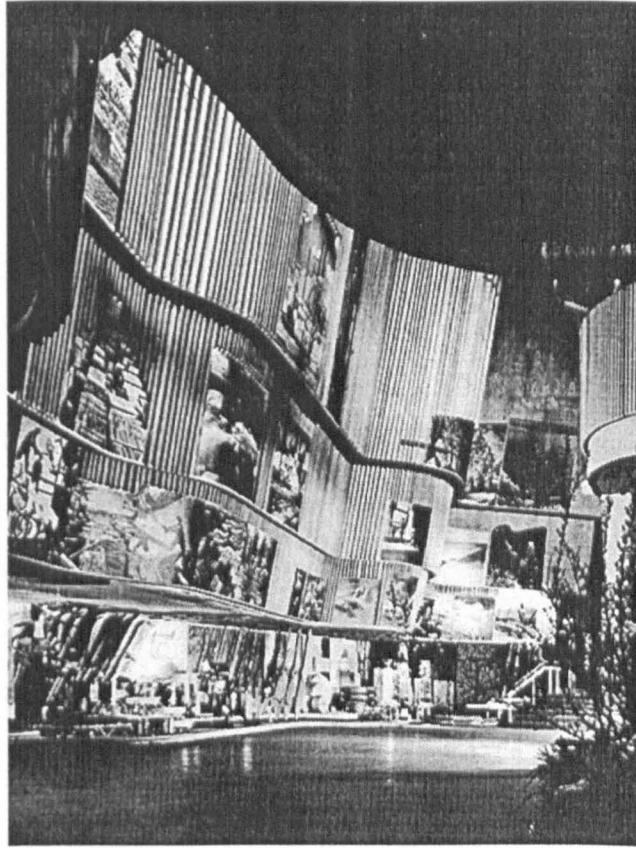
In the final plan of the Villa Mairea, however, we hardly find any decisive momentum of curvilinear elements, because it was, as a whole, delineated by a rectangular house body and L-shaped stone wall. Yet, if we explore Aalto's Villa Mairea design back in the initial sketches, it is not difficult to perceive a critical role for curves. One could indeed argue that the undulating wall of the studio and the curved corner of the southwest basement plan are the

most significant in the whole design development of the Villa Mairea. Without doubt, the undulating wall of Maire's studio should be mentioned first, because it decided the interior space critically during the early stages (see Fig. 3-22). That is, it created a diversified interior landscape and enlarged an exhibition area for the artist and art collector, Maire Gullichsen, who needed more spaces to exhibit a huge number of artworks. In addition, it was necessary to get sufficient length for the staircase to go upstairs. This experiment of an undulating wall in the Villa Mairea was directly reapplied to the Forest Pavilion for the agricultural exhibition at Lapua (1938) and the Finnish Pavilion at the New York Fair (1939). Particularly, the undulating wall of the Finnish Pavilion, which reminded visitors of the *aurora borealis*, an exotic phenomenon of northern countries, is indeed not only a romantic factor but also a very rational invention, as Zevi (1945) pointed out. For the wall enlarged the surface area for exhibition through its curvilinearity and helped meet the visitors' glance by leaning forward. Secondly, the topography of the site let Aalto draw a curved line following the contour in the southwest corner of the basement plan. Furthermore, turning to the 'Proto-Mairea' basement plan, the curvilinearity of the exterior wall inspired by the contour continues in the interior wall in order to continue the flowing movement, which results in free-formed spaces (see Fig. 3-35).

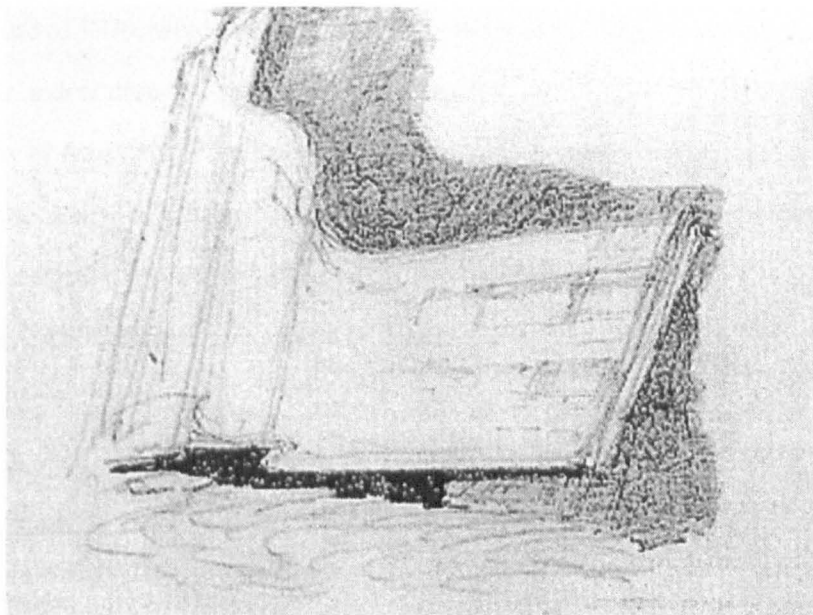
[Fig. 5-22] Forest Pavilion for the agricultural exhibition at Lapua, 1938



[Fig. 5-23] Finnish Pavilion in New York Fair, 1939 (For the model of it, see Fig. 3-21.)



[Fig. 5-24] Curtain wall sketch for Essen Opera House, 1959

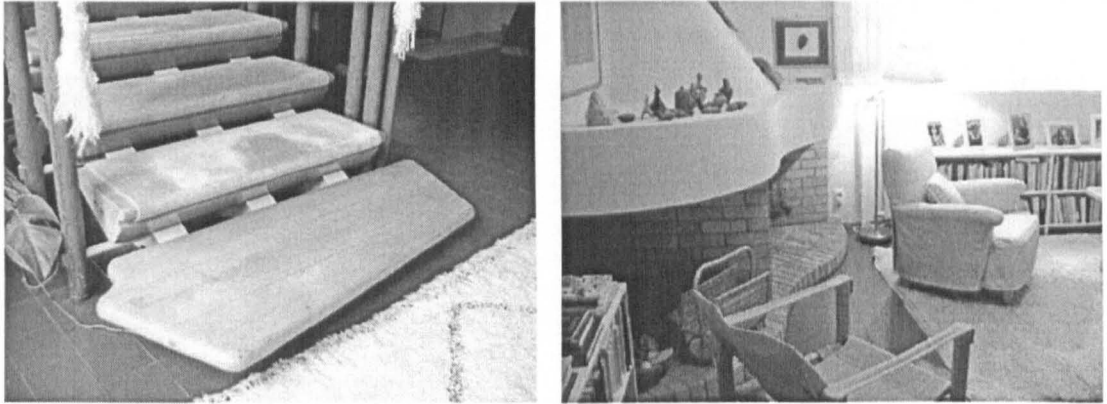


Besides the two aforementioned, there are many other curvilinear elements in the Villa Mairea. The swimming pool continually changed its curvy form after it got an irregular shape in the Early Version 2 for the first time, and at last took a kidney shape in the final plan (see Fig. 3-75). Particularly, it had a free-formed section from the 'Proto-Mairea' onwards for structural reasons, but again with the mimesis of a natural pond. In the 'Proto-Mairea', we can notice two interesting curvilinear concepts. One is the vault roof of the children's hall that has no geometrical order at all and even different sections at the two ends (see Fig. 3-38). The other is the shell-shaped louvre for the skylights of the art gallery. The curvy surface of the louvre must be efficient in diffusing an even light into the inside. On the other hand, the final Mairea still has some curvilinear elements. The non-orthogonal shaped entrance canopy is inflected towards the access road, and the low height curved wall in the entrance hall guides visitors to the living room (see Fig. 3-47). As the entrance canopy gives a welcoming gesture to visitors coming in, the first step of the main staircase, which is wider and free-formed, offers a warm invitation to guests coming up. The west part of the studio wall, the stepped ceilings of the master's and the mistress's bedrooms, and the fireplace of the upper floor hall also have curvy characteristics. And the free-formed indentation of the main fireplace brings up many images, such as a gravestone that Aalto designed in 1935 for his brother-in-law Ahto Virtanen, Hans Arp's sculpture of 1936, wind sculpted snow, fireplaces of Finnish vernacular farmhouses, the semi-circular indentation of Fallingwater's fireplace, etc.<sup>32</sup> Last but not least, there are various kinds of freely shaped glass vases, bent wood chairs, and door handles formed fit to people's hands. Above all, the bent wood chair is very important, not only in itself but also for Aalto's architectural development, because the experiment of bending wood became a creative source for his architectural language of free forms.

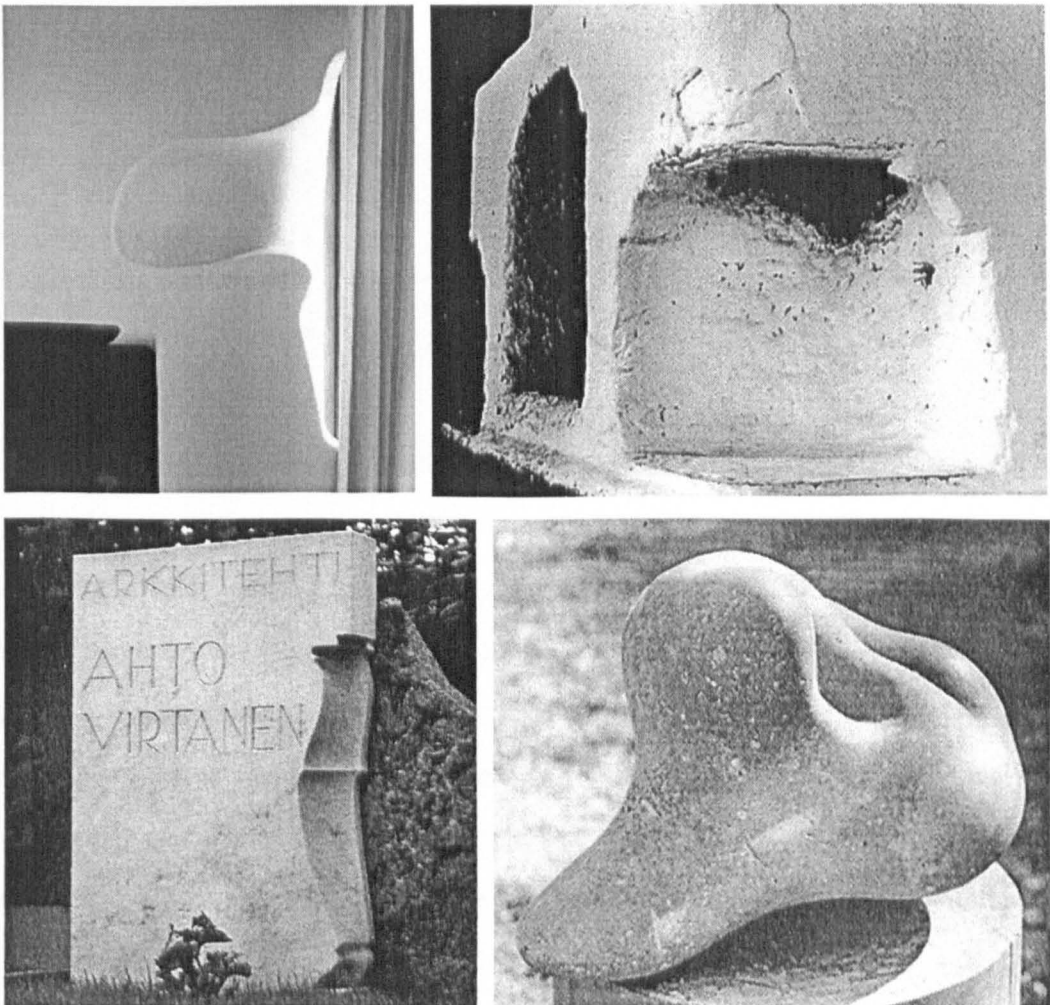
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<sup>32</sup> Weston, R. (1992) *Villa Mairea*, Architecture in Detail, Phaidon, London and Pallasmaa, J. (1998) 'Image and Meaning'. In Pallasmaa, J. (ed.) (1998) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, pp. 96-97.

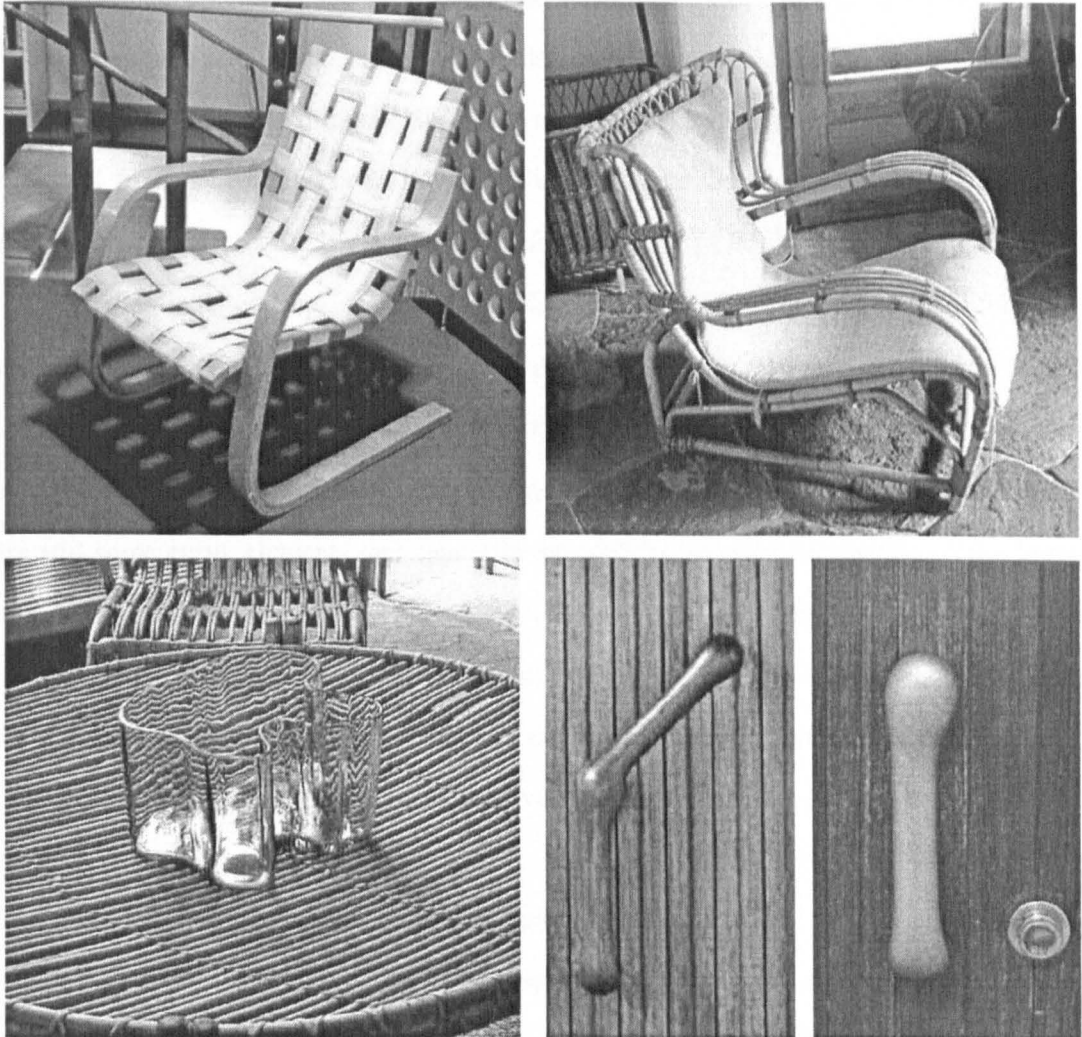
[Fig. 5-25] First step of the main staircase (left) and the upper floor fireplace (right)



[Fig. 5-26] Metaphors of fireplace indentation: Maireia fireplace (top left), Finnish vernacular fireplace (top right), gravestone designed by Aalto, 1935 (bottom left), and Hans Arp's sculpture, 1936 (bottom right)



[Fig. 5-27] Bent wood chair (top left), bamboo chair (top right), glass vase (bottom left) and entrance door handles (bottom right) in Villa Mairea



According to Peter Blundell Jones,<sup>33</sup> ‘organic curves’ could be divided into eight kinds. The first is a curve formed by contours in the topography, which is opposed to an imposed order of geometric measure and axes. For example, the line given by water in the landscape when it sets a datum against the topography it belongs to. The second is an ergonomic and tactile shape, which can be seen in shaped handrails. The third is expression of a line of movement flow, pedestrian or vehicular. The fourth is convexity and concavity formed following a

<sup>33</sup> Author’s conversation with him on the 20<sup>th</sup> of February 2003

congregation of people<sup>34</sup> gathering together and flying apart, as in an auditorium. The fifth is a curve for an optical or an acoustic reason, like a lens or reflector, which is connected to the circle as a focal archetype. The sixth is a body-like entity within a rectilinear framework, such as the free forms of minor partitions in Le Corbusier's plans which play against his rational grid. The seventh is a deliberate form assuming biomorphic symbolism. The eighth is a structural form as in a vault or an inflated balloon. Despite the ambiguity of the sixth sort, he emphasises as a whole the 'rationality' and 'functionality' of the 'organic curve', as opposed to the conventional concept, particularly of Giedion's dichotomy of 'the rational-functional' versus 'the irrational-organic'.<sup>35</sup> Blundell Jones's analysis is very persuasive and helps us understand what on earth curvilinear elements mean in architecture, and at the same time it expels the impression of curves' whimsicality. Nevertheless, we cannot but admit that there are still some curvy elements that cannot be grasped by our rational thought. Aalto himself once confessed the importance of intuition in his architecture: "Intuition can sometimes be astonishingly rational."<sup>36</sup> From Aalto's statement and in his actual designs, we can notice that there is no articulated boundary between the rational and the intuitive. Quite often, seemingly irrational curves or twisted angles in fact prove to be very rational.

Blundell Jones's categorisation can be applied to the Villa Mairea. The curved corner of the southwest basement plan during the early stages belongs to the first category of topographical concerns. Three terraced courtyard plateaus and the swimming pool shape in between of the 'Proto-Mairea' are included here, too. Door handles and chairs – especially Paimio Chair – followed the ergonomic shapes of the second category. The expression of movement flow of the third one is clearly showed in the entrance hall of the 'Proto-Mairea' and the final plan. And the first step of the main staircase also belongs to category three. It is a turning point on the route, where the body changes direction. Therefore, it offers itself more widely than

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<sup>34</sup> Even animals could be counted, considering Häring's Gut Garkau (1922-25).

<sup>35</sup> See Giedion, S. (1967) *Space, Time and Architecture*, Harvard University Press, Cambridge MA, p. 620.

<sup>36</sup> Interview with Göran Schildt in 1972. Published in Fleig, K. (1978) *Alvar Aalto*, volume III, Verlag für Architektur Artemis Zürich, p. 232.



subsequent stairs, which must be taken straight on. And the vault of the children's hall in the 'Proto-Mairea' might be related to the fourth concavity because the hall was intended as a playroom of the children's microcosm – womb-like small world, which is also reminiscent of the seventh biomorphic symbolism. This biomorphic metaphor again dwells in the shell-like skylights of the art gallery in the 'Proto-Mairea' and the 'kidney shape' or 'amoeba shape' swimming pool in the final plan. And if the biomorphic metaphor extends to a naturalistic metaphor, the undulating wall suggesting the northern light, the glass vases associated with Finnish lakes, and the fireplace indentation with many metaphors could belong to this category. However, we can realise that while some curves correspond to two or three categories at the same time, others are hard to define or beyond the categorical definition. For instance, the shape of the entrance canopy is the case, although its inflection – not the shape – is related to movement. Here is a room for intuition or 'play' that Aalto mentioned.<sup>37</sup> The fact that it is beyond a geometrical rule and any articulated purpose of the above categories and that it is therefore seemingly arbitrary might allow us another interpretation, that is, an appeal to human psychology. The entrance canopy, which is slightly inflected towards the access road and of which form is freed from a rigid geometrical rule, eases visitors' tension and makes them welcome. And through it, the transition between nature and culture frequently occurs. At that point, intuition becomes surprisingly rational and a symbolic function manifests itself beyond a practical reason.

In fact, Aalto's 'organic curve' had already been shown before the Villa Mairea. Paimio Sanatorium (1929-33) had a similar entrance canopy – free-formed but alluding to the flowing movement – to that of the Villa Mairea, and, here, the famous 'Paimio Chair' using bent plywood and laminated birch was designed for tuberculosis patients' rest. The wavy wooden ceiling in Viipuri Library (1927-35) auditorium was a wonderful solution for sound

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<sup>37</sup> Of course, other curvilinear elements that belong to the categories also have some intuitive characters. For example, the curvatures of the pool line and the studio wall were quite intuitively decided. That is why the curvatures had changed during the design process. Concerning Aalto's concept of 'play', see 'Chapter 5.3. and 5.3.3.'

transmission,<sup>38</sup> and this kind of acoustic concern could be traced back to a similar ceiling design of Tehtaanpuisto Church competition entry in 1930, a choir platform of Turku Exhibition in 1929, and a bandstand of Tampere Exposition in 1922. And the acoustic form became one of Aalto's most important architectural vocabularies in his later works, as in Church of the Three Crosses in Vuoksenniska (1955-58) and in many auditorium designs. On the other hand, his curvilinear elements were further developed fused with the typology of an amphitheatre, just as the 'city crown' concept did. House of Culture in Helsinki (1952-58) and Essen Opera House (1959) might be the typical cases. Moreover, the amphitheatre concept was transformed variously and appeared without regard to a congregational space in works like the Neue Vahr apartment building in Bremen (1958-62).

Among other modern architects, curvilinear elements were a significant issue though often despised at that time. Spires of Sagrada Familia (1882- ) by Antonio Gaudi in Barcelona were a result of a structural experiment. Erich Mendelsohn's Einstein Tower in Potsdam (1920-24) was well known for its biomorphic metaphor.<sup>39</sup> This kind of object-like building became highly appraised, especially Le Corbusier's Ronchamp Chapel (1950-54) and Jørn Utzon's Sydney Opera House (1957-73) for their abundant metaphors.<sup>40</sup> Hugo Häring must be the most representative figure for '*Organisches Bauen*' (Organic Building), which was important because of its expression of function and movement. He even considered and embodied bull and cows' behaviour in Gut Garkau (1922-25) in Lübeck.<sup>41</sup> Perhaps Sullivan's precept 'Form Follows Function' was illustrated best of all in Häring's designs. Another German architect, Hans Scharoun, also followed Häring's manner in many aspects, and his masterpiece the

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<sup>38</sup> Unfortunately, in fact, the Aalto's acoustic inventions proved not so effective as his thought, but we could make much of his intention in the time when acoustics was not so highly developed. See Blundell Jones, P. and Kang, J. (2003) 'Acoustic form in the Modern Movement', *ARQ*, vol. 7, no. 1, Cambridge University Press, Cambridge, pp. 75-85.

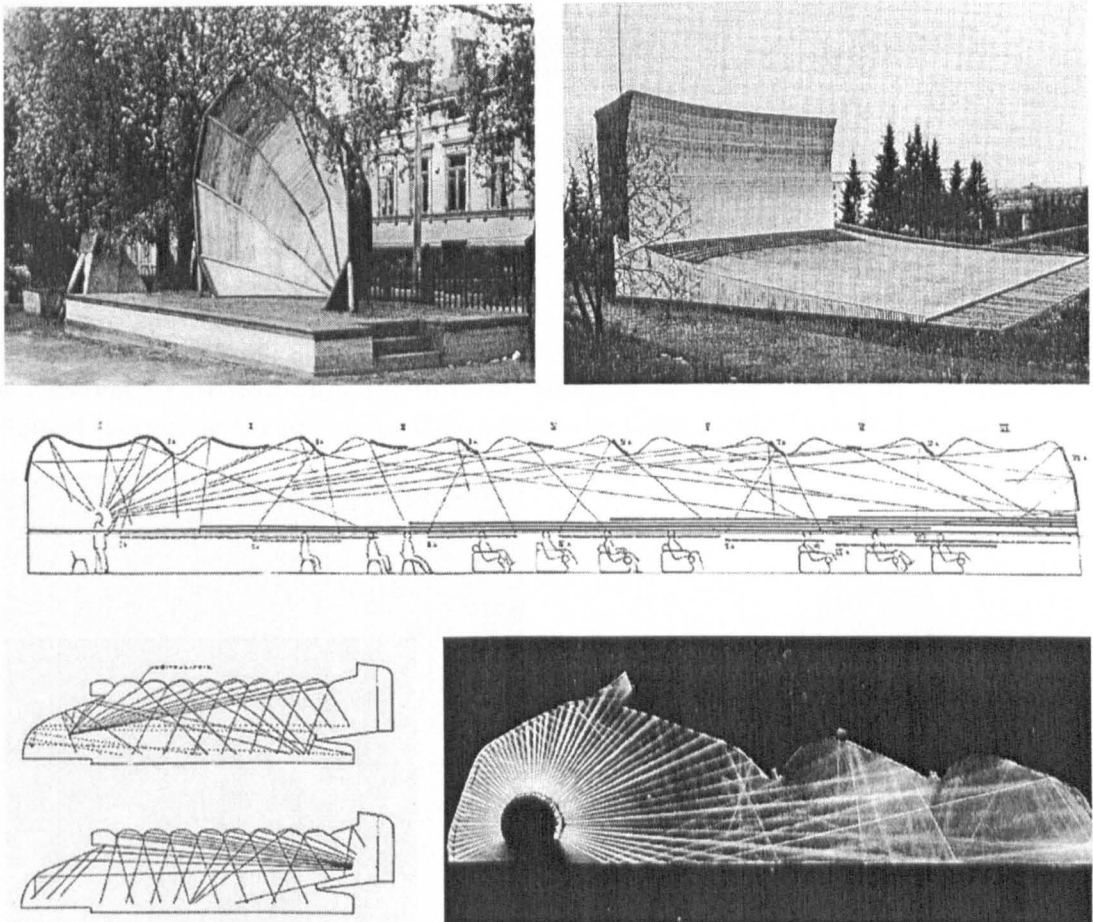
<sup>39</sup> He was also sincerely trying to find the appropriate form for concrete.

<sup>40</sup> About the raised metaphors of the two buildings, see Jencks, C. (1977) *The Language of Post-Modern Architecture*, Rizzoli, New York.

<sup>41</sup> About Gut Garkau by Häring, see Blundell Jones, P. (1999) *Hugo Häring: The Organic versus the Geometric*, Edition Axel Menges, Stuttgart/London, pp.56-67, and (2002) *Modern Architecture Through Case Studies*, Architectural Press, Oxford, pp.47-60.

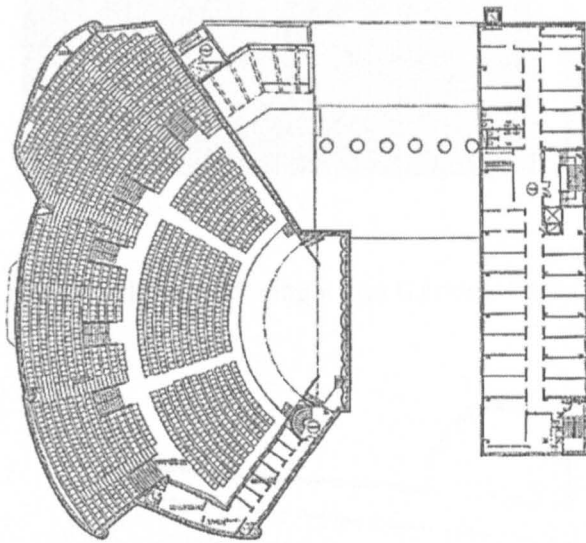
Berlin Philharmonie's complicated form is famous for its acoustic efficiency. In contrast with Häring's and Aalto's flowing curves, Wright's houses reified flowing movements within rectangular plans with a few exceptions. Here, we could notice that the movement and function within a building was delineated through curvilinear forms on the one hand and through geometrical rectangularity on the other, though the modern masters shared a similar concept of 'form derived from purpose'.<sup>42</sup>

[Fig. 5-28] Acoustic forms by Aalto: bandstand of Tampere Exposition, 1922 (top left), choir platform of Turku Exhibition, 1929 (top right), Viipuri Library lecture hall, 1927-35 (middle), Tehtaanpuisto Church competition entry, 1930 (bottom left) and Three Cross Church in Vuoksenniska, 1955-58 (bottom right)



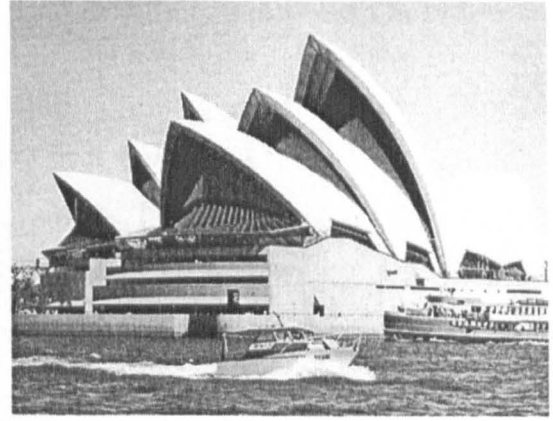
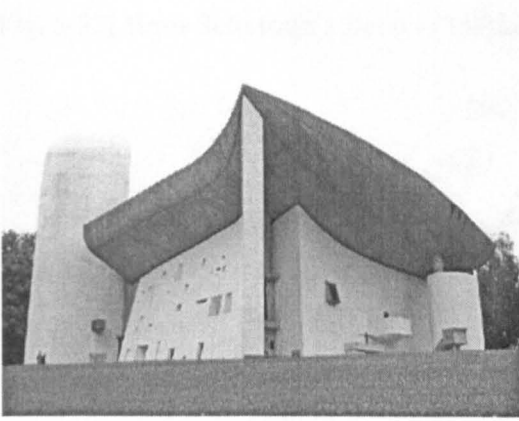
<sup>42</sup> About Häring's idea, see Häring, H. (1925) 'Wege zur Form', *Die Form*, no. 1, which was republished in English as 'Approaches to Form' in *AAQ* (1978), vol. 10, no. 1. And about Wright's idea, see Wright, F. L. (1939) *An Organic Architecture: The Architecture of Democracy*, Lund Humphries & Co. Ltd. London.

[Fig. 5-29] Plan of House of Culture in Helsinki, 1952-58 (left) and photo of Neue Vahr apartment building in Bremen, 1958-62 (right)

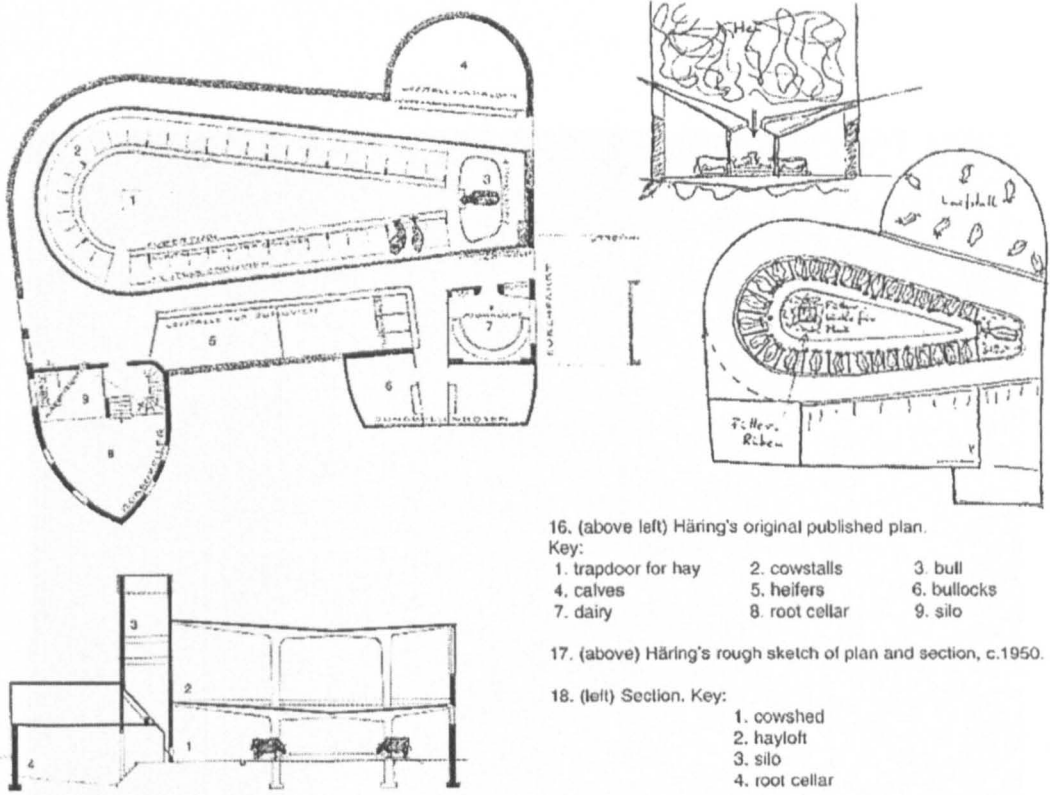


[Fig. 5-30] Sagrada Familia by Gaudi in Barcelona, since 1882 (top left), Einstein Tower in Potsdam by Mendelsohn, 1920-24 (top right), Ronchamp Chapel by Le Corbusier, 1950-54 (bottom left) and Sydney Opera House by Utzon, 1957-73 (bottom right)

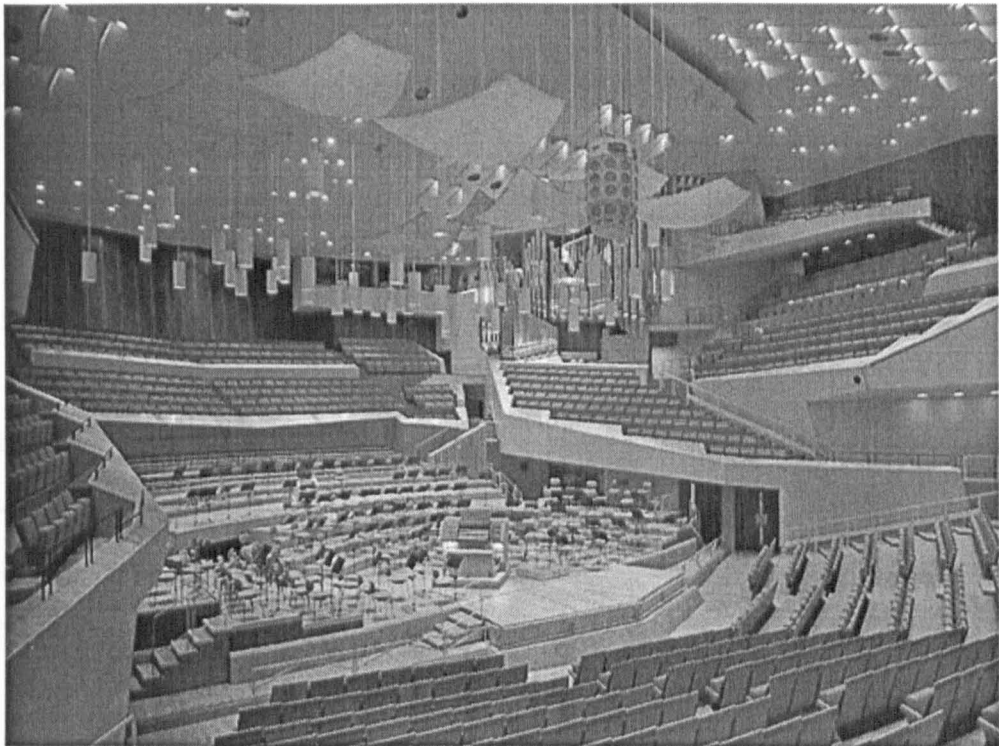
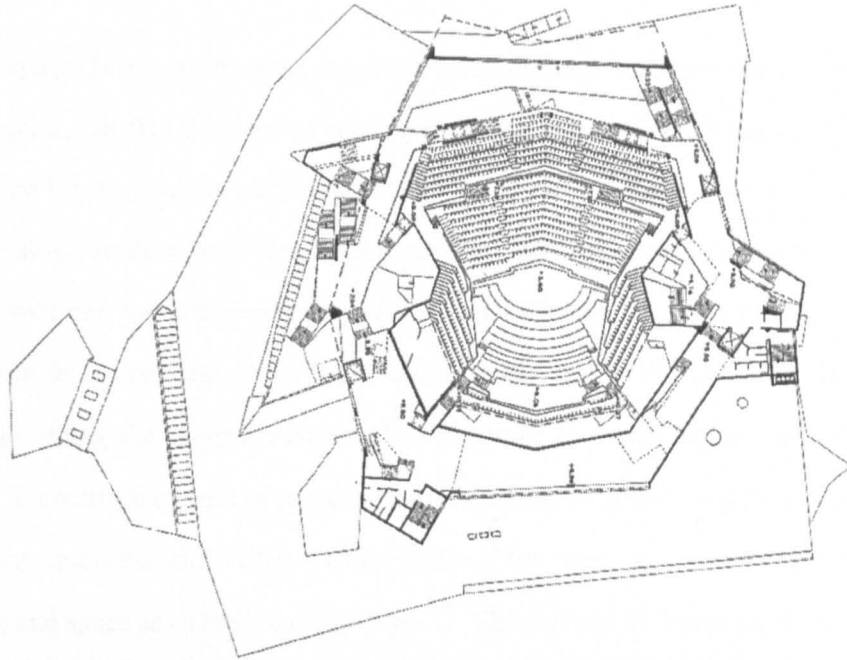




[Fig. 5-31] Hugo Häring's Gut Garkau, 1922-26 from Blundell Jones (2002)



[Fig. 5-32] Hans Scharoun's Berlin Philharmonie



## 5.2. Experiment with Space

The word 'space' is one of the most important terms in modern architectural description. As the title implies, Giedion's canonical work, [Space, Time and Architecture] (1940) regarded 'space' as the key to modern architecture, and its tremendous success elevated the notion of space in architecture throughout the English-speaking world and beyond. Adrian Forty (2000) explains it well and sets the background. After going through 'the intellectual, philosophical preconditions for a discourse about architectural space' in the 19<sup>th</sup> and early 20<sup>th</sup> century – space in describing the original motive of architecture; in describing the cause of aesthetic perception in architecture; and in revealing movement, he extracted slightly different ideas of 'space' from architects and critics in the 1920s. They are: 'space as enclosure; space as continuum; and space as extension of the body.'<sup>43</sup> The concept of 'space as enclosure', as 'the most commonly understood sense of space' in the early 1920s, corresponds to Adolf Loos's *Raumplan*, for instance. 'Space as continuum' is 'the notion that inside and outside space were continuous and infinite', which was significant to Dutch architects of De Stijl and to El Lissitzky and Moholy-Nagy of the Bauhaus. According to the last notion of 'space as extension of the body', 'space was perceived in terms of the body's imagined extension within a volume'. For example, 'Ebeling saw space as a membrane, a protective covering, like the bark of a tree, between man and the outer world.'<sup>44</sup> However, Forty left ambiguous the relation between the preconditions of architectural space in the 19<sup>th</sup> and early 20<sup>th</sup> century and the notions in the 1920s. That is to say, the three categories of each do not match each other except in 'the original motive of architecture'-'space as enclosure'. This ambiguity might reveal the schism between preceding philosophical concepts of space and 'built' space, but, in fact, the two realms intersect throughout (modern) architectural history.

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<sup>43</sup> Forty, A. (2000) *Words and Buildings: A Vocabulary of Modern Architecture*, Thames & Hudson, London, pp. 256-75. According to him, the idea of 'space' in architecture was initiated first in Germany with the word *Raum*, which 'at once signifies both a material enclosure, a 'room', and a philosophical concept'. But its translation into English or French 'lacks the suggestiveness of the original'.

<sup>44</sup> For the detailed descriptions, see Forty, A. (2000) *op. cit.* p. 266.

Without respecting the boundary of the two realms, I argue that Aalto's concept of space in the Villa Mairea is deeply involved in the motives of enclosure, movement, inside-outside continuum and aesthetic perception. I have already engaged the question of 'enclosure' in the former chapter, though it focuses more on the courtyard space. In this chapter, I will explore, firstly, space which reveals movement mainly concerning the living area of the house, under the title of 'the dynamic amid the static'. And the aesthetic perception will be related to 'space to combine art with life', which is Aalto's leitmotif of the final design alteration. In addition to these, two other co-related subjects will be successively studied – 'interior landscape' and 'forest in forest'. They will include the space conception of 'inside-outside continuum'.



### **5.2.1. The Dynamic amid the Static**

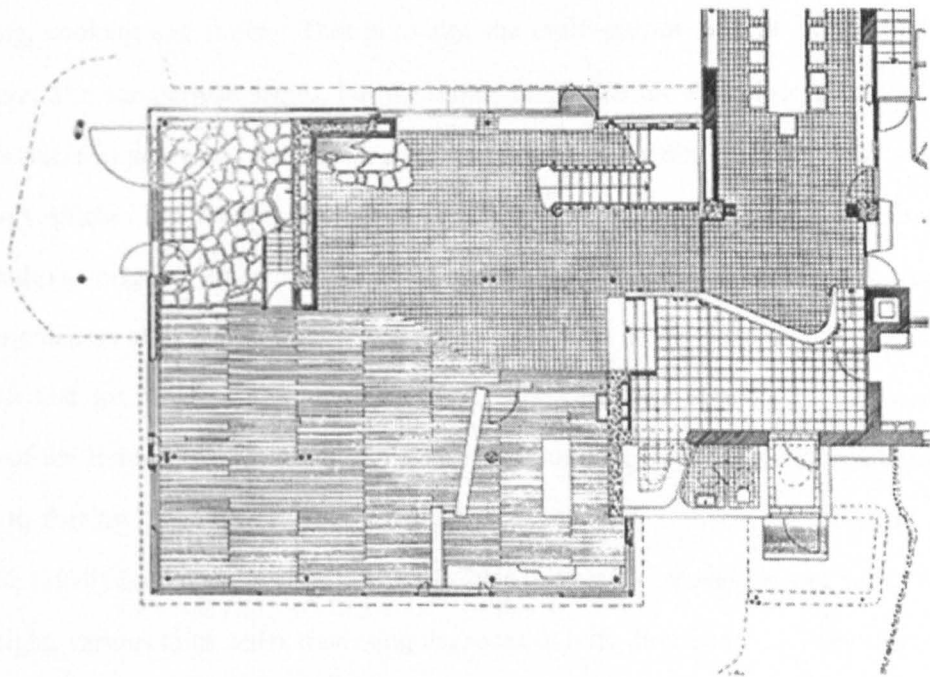
In the final design alteration of the Villa Mairea, the living area was shaped as an exact square and lost its remaining level change. It became very simple. Straight-lined walls and windows in plan simply enclose the interior space of the living area. This exterior delineation makes the space look very static. However, within the layer of the static geometry, we can sense dynamism through several oblique lines that guide optical procession and behavioural movement. From the inner door of the entrance gate to the centre of the living area, we can experience at least five oblique lines. They are the bent wall in the entrance hall, the wall between the cloakroom and the toilet, the first step of the main staircase, the partition wall of the library and the boundary line of the living area floor pattern. In opposition to Pallasmaa (1998) who adjusted the oblique lines to modular coincidences,<sup>45</sup> I suggest that the lines are, as mediators, deeply related to spatiality – especially that of revealing optical and behavioural movement. The first, the bent wall of the entrance hall splays towards the living area. The moment we step into the entrance hall, firstly, our sight is guided towards the living hall (eventually towards the fireplace) by the wall, and then, we are drawn naturally to the stairs leading up to the living area, as we feel the congestion of a narrow point leading towards a wide space. The end part of the wall right beside the stairs has a lower height than other part, so that visitors can look across the living space and the main staircase from the entrance hall. The second, the splayed cloakroom wall, also makes it possible to draw visitors' attention and facilitates movement. The third oblique line that we can experience is the lowest tread of the main staircase, which could be seen early as we climb up to the living area from the entrance hall. The elaborate gesture of the tread symbolically urges people to turn onto the stairs, or, in reverse, it guides people coming down towards the living room by twisting its direction. As regards the fourth, when we proceed straight ahead from the entrance stairs, we could look across the living room space to the left little by little. Critically, the oblique partition wall

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<sup>45</sup> About the comment to Pallasmaa's modular coincidences, see 'Chapter 3.2.7. Modular Coincidences or Hidden Geometry?'

guides our view and at last our movement at the end of it. Likewise, these four oblique lines lead our visual procession and behavioural movement in the inside, which makes possible the dynamic spatial experience within the static square. This flowing movement can be regarded as a representation of what existed in the 'Proto-Mairea' basement plan, and it also extends to the long dining room that could be flexibly open and closed using a foldable curtain wall. If Häring's typical plan (see Fig. 5-123 and 124) expresses movement and function directly with the exterior wall, the Villa Mairea's living room contains dynamic movements within the rigid geometry.

[Fig. 5-33] Villa Mairea living room plan



On the other hand, if we exclude the servant wing; the living area, dining room and entrance hall can be regarded as a single open space. No load-bearing wall closes off parts of the space. All the spaces interlock. The architect's intention of flexibility in the library partition walls increases greatly the atmosphere of flowing space. Although the living area is open – the wintergarden could also be seen as open considering its transparent sliding door – the whole

area is divided into two by the floor pattern. The fifth oblique line is this boundary line between the two living areas. The music room and library are laid with wood strips and the other part with floor tiles. The fact that one bent corner of the line was adjusted to the end of the partition wall shows how deliberate Aalto was in the division of the space. Although the partition wall was mobile, it is important to bear in mind that the starting position of it was adjusted to the corner of the floor pattern change. However, when the library was enlarged and the walls were fixed to the ceiling, the deliberate adjustment became petrified.

As well as the fifth oblique line indicating 'the dynamic amid the static', it also signifies importantly the modern application of the vernacular. Schildt (1986) compared this flexible living room of the Villa Mairea with a Finnish farmhouse's *tupa*, which is a combined space for living, cooking and dining. That is to say, the multi-purposefulness of one room is the issue here. The comparison stands, but we should not forget the difference between the petty farmer's minimal space and the expansion of bourgeois' abundant spaces. Schildt's quotation of Aalto's article 'The Housing Problem' (1930) for the comparison easily leads readers to miss Aalto's original intention of mentioning *tupa*. In the article, Aalto supported *Existenzminimum* after the Minimum Apartment Exhibition at the Helsinki Art Hall in 1930.<sup>46</sup> I suggest that we can find a more active application of a *tupa* element in the floor pattern change of the living room. In other words, the division of space by the floor pattern is very similar to that by 'head-height poles' in *tupa* without walls. Concerning the poles in *tupa*, Glanville (1977) describes, 'As one enters the Tupa of Finnish farmhouse, one sees, just above head height, various thick poles traversing the room in both directions. ... They infer separate spaces within the Tupa, rooms without walls. ... All in all, these head-height poles have an extraordinary significance, dividing off 'boxes' for each of the functions performed in the Tupa.' And, the fact that only the square living room ceiling has a wood strip finish supports the *tupa*-like space division. In this sense, we can say that Aalto represented Finnish

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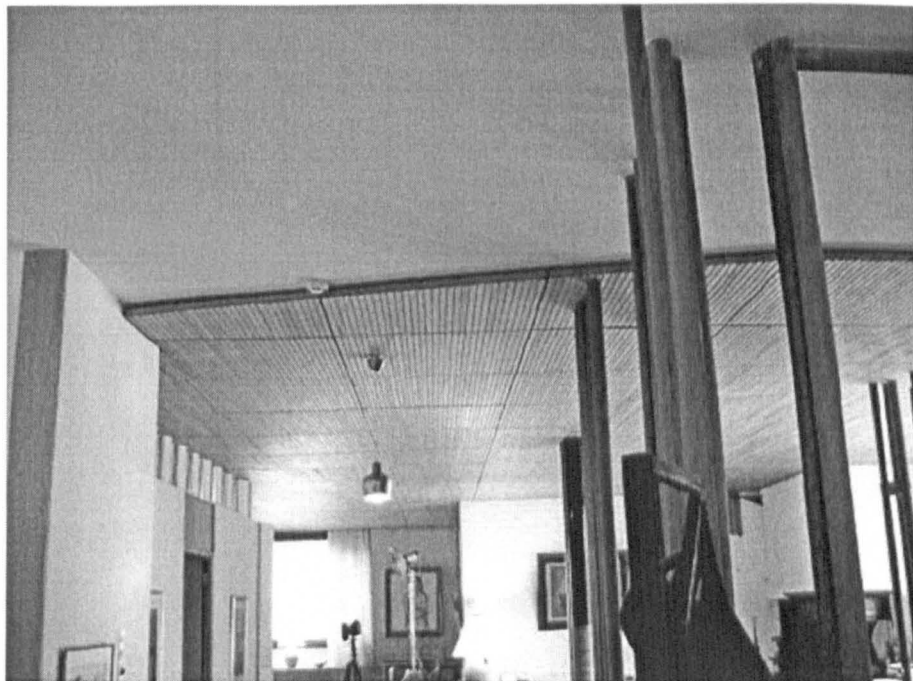
<sup>46</sup> For Schildt's description, see Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, Rizzoli, New York, p. 160, and for Aalto's article, see Aalto, A. (1930c) 'The Housing Problem', *Domus*, no. 8-10. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki.

vernacular space in the modern house.

**[Fig. 5-34] Division of space by floor pattern change, Villa Mairea living room**



**[Fig. 5-35] Division of space by wood strip ceiling, Villa Mairea living room**



[Fig. 5-36] Karelian farmhouse *tupa* with head-height poles, Seurassari Open-air Museum in Helsinki



## 5.2.2. Space to Combine Art with Life

To create a space that combines art with life must be Aalto's main theme in the Villa Mairea. More than two public expressions by Aalto about the house remain as the evidence of his obsession with this theme. They are the lecture at Yale University on May 9<sup>th</sup>, 1939, titled 'The Home of a Rich Collector' and the article 'Mairea' in [Arkkitehti], no. 9 in 1939.<sup>47</sup> In the Yale University lecture, Aalto explained how he tried to solve 'the very important problem of the relation between architecture and the fine arts' in the Villa Mairea, and he allocated half of the architectural description of 'Mairea' to it again. He wrote:

In a problem such as we are considering today – the program for a rich art collector – we may find a possibility to use the house as a laboratory experiment to tackle some of the central problems in architecture today. ... In the same way, a building for a rich art collector may be used for solving the very important problem of the relation between architecture and the fine arts. ... You must study the problem in such a way that your solution fits not only this particular case, not only this particular client and his collection of art, not only this large house, but your solution must provide for the general use of the fine arts in the home, perhaps even in a very limited space, in a small house or apartment, even in a single room.<sup>48</sup>

This passage reveals that Aalto regarded this house as an experimental laboratory to tackle

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<sup>47</sup> Both were published in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki. In a lecture delivered at Architectural Association in London about 10 years later (June 1950), he again mentioned the Villa Mairea as 'a laboratory' and its large living room concept for art exhibition.

Luxury housing is probably morally right if you use it as a testing ground and a laboratory. ... In the interior of this large living room all the partitions are movable. ... The partitions serve as storage for paintings. It is not very cultural to see a living room with the same paintings facing you all the time. If you want to be polite to your guests you must be able to change the paintings according to the guest and take down the Matisse or Simberg or Schjerfbeck.

See Aalto, A. (1950) 'Finland Wonderland', AA lecture in London, June 20, 1950. Republished in Schildt, G. (ed.) (1997) *op. cit.* pp. 184-190.

<sup>48</sup> Aalto, A. (1939a) 'The Home of a Rich Collector', Yale University Lecture, May 9, 1939. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, p. 226.

important architectural problems at the time, of which the key issue was ‘the relation between architecture and the fine arts’. Furthermore, he argued that the solution could also fit a small house, even a single room. That is to say, Aalto asserted that he could experiment with various possibilities throughout the luxurious house and the experimentation could make it possible for him to create ingenious spaces in later mass-produced housing.

To solve the problem, Aalto starts from a single room.

Let us start with the single room. There is a bed, a wardrobe, some tables, and a bookshelf with three or four books on the shelf, which is the “collection of art” in this room. Perhaps one of the books is open on the table – that is the “gallery”. There may be some pictures on the walls. But the influence of art in this room is not transmitted by the pictures on the walls; I think it is done more through the books. ... If the pictures on the walls are copies or prints or photographs – that is, like pictures in books – they probably will be changed from day to day or from month to month. If there is one especially fine original work, perhaps that work will hang permanently and the other pictures may be changed.<sup>49</sup>

This single room is for everyday life involving sleeping, changing clothes, and reading books. Here, Aalto compared books with artworks. So, ‘books on the shelf’ are parallel to ‘collection of art’ and a book ‘open on the table’ is like an artwork displayed in a ‘gallery’. And reading books means appreciating art. Therefore, Aalto strongly implied in the passage that as to read books is a part of our everyday life, the appreciation of art can be intermingled with our general life. On the other hand, he also mentions pictures on the walls of the room. It is inconsistent of him to describe actual artworks at the same time as taking the books as metaphor. In spite of the confusion, he reveals another important intention in the sentences about ‘the pictures’. That is, some pictures might be displayed permanently but others could be changed at times.

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<sup>49</sup> Aalto, A. (1939a) *op. cit.* p. 227.

After the description of the single room, Aalto moved his viewpoint to a large house and the rich collector's house, *i.e.* the Villa Mairea. Before this, however, he raises a counterexample that he had experienced.

I have seen homes of art collectors where the private apartments and the gallery were designed apart from each other. There is a great hill in the Norwegian capital, Oslo, on which stand many large residences and many of their owners collect modern paintings. In many of them you will find a separate private house built in connection with what they call a private gallery. I have been in quite a few of these homes and can honestly state that there was no relationship between art and daily life – although the gallery was frequently used for scotch and soda. Aside from that there was never any real connection between art and daily life in these mansions. ... It was very difficult to find the human heart which binds the person to the art.<sup>50</sup>

Aalto criticises residences with a separate art gallery that there is 'no relationship between art and daily life'. Interestingly, it is very antinomic that this criticism also returns to the 'Proto-Mairea', right before the Final Version of the Villa Mairea. In a way, this paragraph might be regarded as Aalto's rationalisation for the abrupt final design alteration. However, considering the whole design process of the house and the flexible walls for art exhibition in the living room of the Early Version 1 and 3, it is not the final alteration but the separate art gallery in the 'Proto-Mairea' that departs from Aalto's original intention. In other words, the final alteration – removing the separate gallery and designing an art-exhibition space within the living room – can be read as a return to Aalto's original intention to fuse art with life.

As soon as we have a collection of art, there is always the danger that there will be a gallery as an annex, not a part of everyday life. ... It may be possible to arrange the collection in a large house somewhat like books on the shelf in the single room – that is, it should resemble a library of art. ... I think the only human way to use a collection in a personal way is to use it so that only a small part of

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<sup>50</sup> *Ibid.*



the collection comes into daily contact with us. We would never read one hundred books at one time ... 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>51</sup>

Aalto even regarded a separate gallery as a 'danger', preventing a collection of art from being a part of everyday life. To him, the answer for the fusion of art and life lies in 'the poor single room' that he explained at the beginning of the argument. He again maintains that only a few artworks can be displayed and the remaining collection can be kept in 'a library of art' – like 'books on the shelf', and the display can be changed frequently. Just as we cannot read many books at the same time, we cannot appreciate all the collection of art simultaneously. It is interesting that Aalto made a reference to Japanese house for this principle. However, Lisbeth Sachs, a Swiss student of architecture in Aalto office at that time, raised a different source of the principle, that is, Le Corbusier's [Vers une Architecture] (1923).<sup>52</sup> The following is a directly matching part of Le Corbusier's text.

3. In your living-room fittings *to hold your books and protect them from dust and to hold your collection of paintings and works of art.* And in such a way that the walls of your room are unencumbered. You could then bring out your pictures one at a time when you want them. ... (d) *Pictures are made to be looked at and meditated on.* In order to see a picture to advantage, it must be hung suitably and in the proper atmosphere. The true collector of pictures arranges them in a cabinet and hangs on the wall the particular painting he wants to look at; but your walls are a riot of all manner of things.<sup>53</sup>

And the concept is summed up in the succeeding 'The Manual of the Dwelling' in the same book: '*Put only a few pictures on your walls and none but good ones.*'<sup>54</sup> It is very likely that Aalto knew about this Corbusian axiom, but he would not mention him. It might be partly

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<sup>51</sup> Aalto, A. (1939a) *op. cit.* p. 228.

<sup>52</sup> Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, Rizzoli, New York, p. 159.

<sup>53</sup> Le Corbusier (1989) *Towards a New Architecture*, Architectural Press, London, pp. 117-120.

<sup>54</sup> *Ibid.* p. 123.

because of his pride<sup>55</sup> but also because his attitude towards the art exhibition space was a little different from the rival's. So to speak, Le Corbusier's description is more for a modern minimal or hygienic life rather than for the combination of art with life, as we can understand in the contents of 'protect them from dust' and 'but your walls are a riot of all manner of things'. On the contrary, Aalto willingly admitted Japanese influence on the concept in the lecture. It is also supported firmly by Bernoulli's report that Aalto consulted Tetsuro Yoshida's [Das Japanische Wohnhaus] (1935) for the design of the house.<sup>56</sup> What he had in mind in mentioning Japanese art display must be *tokonoma*. It is a picture recess and 'the most important and impressive constituent of the Japanese room'. Concerning the display of a picture on *tokonoma*, Yoshida describes:

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>57</sup>

After all, Aalto was translating the *tokonoma* idea into the Villa Mairea living room in his own way. I argue that it is the key to understand what Aalto conceived in this design.

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<sup>55</sup> It is said that Aalto would not tell any references for his designs. According to the interview with Schildt, Aalto's answer to the question about his design inspiration is:

It is a very difficult question. I can only say generally that I am greatly indebted to my colleagues and predecessors. But they are many. It would be a long list all the way from archaic times to our age. It would not only include architects but the entire field of art and science. In addition to personalities, the list would contain achievements of architects, painters, sculptors, engineers and of scientists of various disciplines, supporting different philosophies.

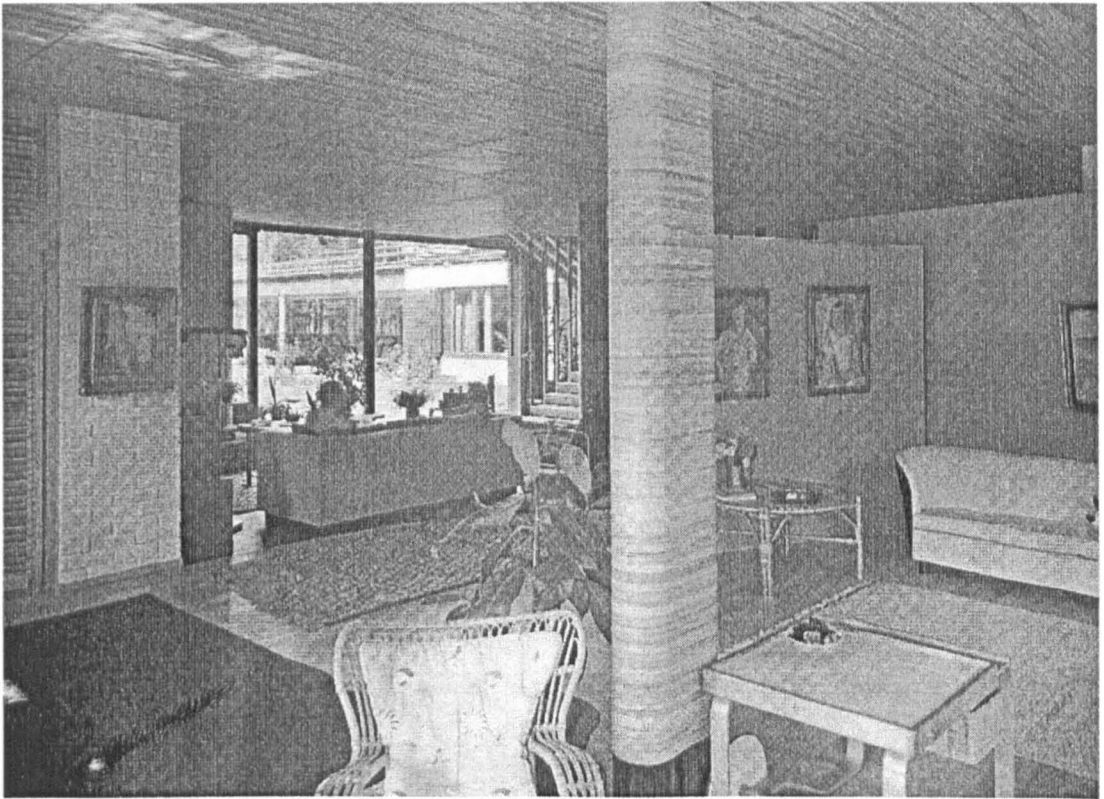
Mosso, L. (1967) *Alvar Aalto, Teokset 1918-67 (Alvar Aalto, Works 1918-67)*, Otava, Helsinki, p. 6. Cited in Pallasmaa, J. (1998) 'Image and Meaning'. In Pallasmaa, J. (ed.) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, p. 78.

<sup>56</sup> Pallasmaa, J. (1998) *op. cit.* p. 98.

<sup>57</sup> Author's translation from German into English. Yoshida, T. (1935) *Das japanische Wohnhaus*, Ernst Wasmuth, Berlin, p. 59.

*Diese Rollbilder, Kakemono genannt, werden ebenso wie Vasen und die übrigen Ziergeräte häufig gewechselt; die Auswahl der Bilder richtet sich nach der Jahreszeit, deren Stimmung sie angepaßt werden. Wenn die Kakemono nicht gebraucht werden, so werden sie aufgerollt und in Kästen aufbewahrt.*

[Fig. 5-37] Villa Mairea living room, space to combine art with life: freely positioned movable partition walls before the library extension in 1941 (top) and the fixed library wall of the present situation (bottom)



Returning to the Yale University lecture, Aalto at last described his application of the ‘art library principle’ to the Villa Mairea. That is movable partitions that function as storage cabinets of artworks and as exhibition walls at the same time.

The interior construction of the house, the walls – in the case of pictures – must be movable. The lower floor of the house, although it is a large house, I have designed as just one single room, but a very large one. The size of this one room of the house is 250 square meters. On this great floor space I will install movable walls. The walls must be thick and hollow, about two or three feet, just like boxes. You can place them wherever you wish. They are in no way attached to anything, but are like separate movable boxes. They slide on bases of soft felt. The walls themselves can be opened in several places by thin, light doors. Within the walls are special shelves. These walls are at the same time cabinets for storing the collection. The outside of the walls is for exhibiting the selected pictures. In this way it is easy for the host or hostess to work with the collection, to take out the pictures, place them on the wall, and change them again. It is like a library of pictures, where some of them are exhibited on the outside and some are stored within.<sup>58</sup>

In the description of ‘Mairea’ in [Arkkitehti] after the construction of the house – the Yale University lecture was delivered during the construction, so Aalto used the future tense in some sentences – he repeated the ‘art library principle’ for ‘the interrelationship of art and the home’ (see Chapter 2.4). Unfortunately, however, the mobile partition cabinets were fixed and became no longer able to function for the art library within a couple of years after the completion of the Villa Mairea, in order that Harry could secure his own confidential space. And the wall panelling, which originally looked like furniture, ‘got linen covering’ to be ‘suitable for hanging paintings’ at variance from Aalto’s design concept.<sup>59</sup>

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<sup>58</sup> Aalto, A. (1939a) *op. cit.* pp. 228-229.

<sup>59</sup> Schildt, G. (1986) *op. cit.* p. 159.

On the other hand, the last two paragraphs of the 'architectural description' in 'Mairea', Aalto revealed a clue of his concept of 'form'. This is quite a different story than has been described so far.

The goal was to avoid artificial architectural rhythm in the building without giving up pure "form", as long as it could be obtained in harmony with the structure or with an increased use of materials and surface treatments that are inherently pleasing to the senses.

In this building the designer sought to apply a special concept of form connected to modern painting. He believes that modern painting gives a building and a home a deeper and ultimately more human material and formal accent than an ornament designed as an architectural appendage can. Modern painting may be on the way to developing a set of forms with the capacity to evoke personal experiences in connection with architecture, superseding historicist ornamentation, which merely serves the function of representation.<sup>60</sup>

Although Aalto put the living space within the 'pure "form"' – the exact square box, he did not want it to seem 'artificial'. Thus, under the pre-determined condition of the pure geometry that he himself had imposed on the plan, the first goal was ironically to break the artificiality within the interior. Differently from the early drawing 84/408 (see Fig. 3-44), the executed plan 84/938 (see Fig. 3-47) shows how columns were positioned in the living room slightly beyond the rigid grid and module. And, 'to avoid artificial architectural rhythm' is also enhanced by random groupings, different wrappings and various materials of the columns 'in harmony with the structure'. This goal is also achieved by using different materials for 'surface treatments' – he used red tiles, wood strips and stones for the floor, white-washed bricks and plaster for the walls, and wood panelling for the ceiling. And the sophisticated treatments created a really sensuous atmosphere as he intended. As a result, we cannot feel the pure form in the interior space but experience an ever-changing interior landscape. Of course,

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<sup>60</sup> *Ibid.* p. 230.

this spatial variety is also nourished by the irregularly standing poles of the main staircase, the white mass of the fireplace with the sculptural indentation, and the large window that directly draws in the outer space.

Very interestingly, Aalto related 'form' in the Villa Mairea to modern painting in the second (last) paragraph. However, it is ambiguous as to what 'form' Aalto meant. Depending on the interpretation of his 'special concept of form connected to modern painting', we can understand this house differently. I think that there exist several possibilities of interpretation. Firstly, the form could mean the whole plan of the house. It is a physiognomic view like the manner that Frampton (1980) sees the plan as a 'fish-egg' composition or that of Curtis (1996) as 'a curved fish with head, body and tail'. Otherwise, the form of the whole plan or its part might be regarded as an abstract painting or a kind of collage. Secondly, considering the previous description about the client's art collection and the concerns for its exhibition, the form might be the spatial issue for the display of the artworks. And modern painting can also be thought of as a substitute for 'historicist ornamentation', so that one is able to get artistic pleasure through the painting rather than architectural ornaments. Thirdly, somebody might be reminded of Cézanne's painting as Schildt (1984; 1986) was. Even if the above paragraph does not reveal any articulated Cézannesque influence on Aalto's formal conception, Schildt is fully convinced of it through Aalto's early paintings and 'inner exterior' in his architectural designs.

What he says about the role of painting is interesting. In the first part of this biography, I dwelt on Cézanne's influence on Aalto's conception of space, and I find it noteworthy that in describing the Mairea, Aalto himself pointed out the connection with modern painting.<sup>61</sup>

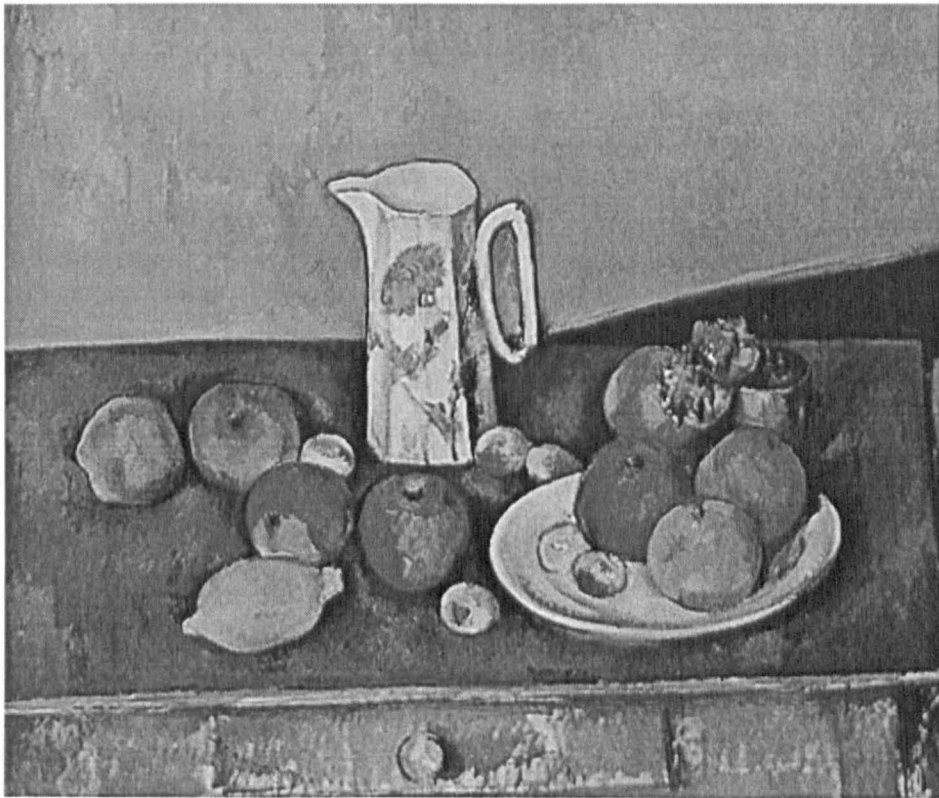
We have already noted that open space, as it was depicted by Cézanne, is 'formless', in other words it lacks a clearly defined, continuous shape, since it

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<sup>61</sup> Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, Rizzoli, New York, p. 160.

consists of elements which are never complete and sometimes contradictory. Cézanne's paintings are not 'finished'; they contain unworked gaps, just as our perception does, but they still make up a harmonious, balanced system of forms, which gives us satisfaction. Aalto's great discovery was that architectural interiors can be treated the same way. ... Aalto was beginning to realize that one can give an interior the feeling of an exterior by other means than using historical façade styles. The 'open air' can be recreated indoors by using the same idiom of incomplete, interrelated solids and volumes which we find in Cézanne's open space. ... The continuity of Aalto's efforts to create 'exteriors' indoors is particularly apparent in the modern equivalents of Classical motifs he resorted to in order to create façade effects in his interiors. ... Thus he was able to join the ancient tradition of ceremonial architecture rooms, while his spatial design, liberated from symmetry and axial systems, resonated with the idiom of modern art and man's open, spontaneous and creative orientation in the world.<sup>62</sup>

[Fig. 5-38] Still life by Paul Cézanne (1839-1906), oil painting, late 1800



<sup>62</sup> Schildt, G. (1984) *Alvar Aalto: The Early Years*, Rizzoli, New York, pp. 223-226.

According to Schildt, 'not finished' and 'unworked' spaces of Cézanne's paintings were created in Aalto's interiors. Particularly, the 'façade effect in his interiors' offers the interior 'the feeling of an exterior'. Here, what Schildt means by the 'façade effect' is a phenomenon that one can feel exteriority in an interior through 'façades' that form interior walls simultaneously as well as that seem building volumes as in the Classical square. Moreover, 'his spatial design, liberated from symmetry and axial systems' can be more clearly related to Cézanne's paintings that escaped from central perspective. Schildt argues that Aalto learned 'the Cézannesque revolt against the laws of perspective' from the leading Finnish artist, Tyco Sallinen.<sup>63</sup> In a slightly different manner, Blundell Jones (1988) described Aalto's 'aperspective space' together with those of Gunnar Asplund, Hugo Häring and Hans Scharoun.<sup>64</sup>

Fourthly, Aalto's concept of the Villa Mairea might be related to Cubist art, especially 'Collage', as Pallasmaa (1985; 1986; 1998) has suggested. In fact, Aalto's relationship with the Cubists was already mentioned by Giedion (1949), and Schildt (1984) also described Aalto's respect for Fernand Léger and George Braque, who initiated the Cubist style with Picasso and Gris in 1914. On the basis of this, Pallasmaa seems to have developed Porphyrios's idea (1982) of 'the ordering sensibility of Heterotopia' and 'hybrid compositional principles' in Aalto's design into the 'Cubist Collage technique', which became a representative label of Aalto's architecture.<sup>65</sup> If the Cézannesque influence that Schildt maintains is more about the spatial concerns, the collage technique that Pallasmaa asserts is

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<sup>63</sup> *Ibid.* p. 154.

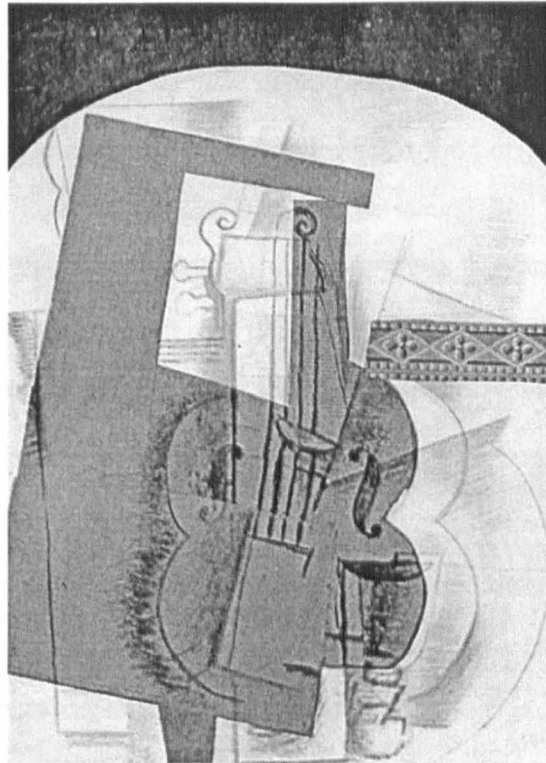
<sup>64</sup> According to Blundell Jones, the term 'aperspective' was used by Scharoun, who quoted it from a cultural philosopher Jean Gebser's [Ursprung und Gegenwart] (1949). Blundell Jones, P. (1988) 'From the Neo-Classical Axis to Aperspective Space', *Architectural Review*, March, pp. 19-27.

<sup>65</sup> 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.



more about images. In the Villa Mairea, the collage is formed by juxtapositions of heterogeneous or even contradictory elements. They are, for example, juxtapositions of the vernacular sauna hut and the white walls of International style; rustic stones and blue tiles; and lashed timber poles and a steel column. ‘The architectural composition of the Mairea is’, Pallasmaa depicts, ‘a collage that fuses together images of continental modernity, idiosyncratic personal inventions and references to motifs of anonymous and timeless vernacular tradition.’<sup>66</sup> About the concept of the collage in Aalto’s design, there is an interesting difference between Pallasmaa and Schildt. As opposed to Pallasmaa, who applies the collage technique broadly to Aalto’s works, Schildt argues that the ‘collage’ cannot be applied in all cases but only to the Villa Mairea.<sup>67</sup> In any case, both willingly use the term for the house.

[Fig. 5-39] ‘Violin’ by George Braque (1882-1963), collage, 1912



<sup>66</sup> Pallasmaa, J. (1998) ‘Image and Meaning’. In Pallasmaa, J. (ed.) (1998) *Villa Mairea 1938-39*, Alvar Aalto Foundation, Mairea Foundation, Helsinki, p. 90.

<sup>67</sup> Author’s interview with Göran Schildt at Villa Skeppet in Tammissaari, Finland on July 28, 2003.

Considering the design development of the Villa Mairea, the first interpretation on his ‘special concept of form connected to modern painting’ – the physiognomic view – is not so appropriate, because the whole plan is not the result of the formal issue but that of dialectics of functions, circulations, structures and many other fascinating ideas. But the second one – space for the display for artworks – is feasible in that Aalto’s main focus in the Villa Mairea design is clearly on this, as his two descriptions show. Suominen-Kokkonen (2004) described an ‘imaginary tour of the early Villa Mairea’, appreciating ‘the early display of artworks in the Villa Mairea in relation to the architectural design of the house and those who viewed the works’.<sup>68</sup> Relations of Aalto’s architectural form and space with Cézanne’s painting and Cubist collage make our experience and interpretation of the house very rich. Because Aalto himself was a painter,<sup>69</sup> his interest in modern painting became a starting point of his architectural design. He frequently said, “It all began in painting!” because he could learn there ‘freedom from ready-made systems and established conventions.’<sup>70</sup> Abstraction in painting allowed a concentration on pure composition in shape and colour, supposedly uninfluenced by meaning sometimes, and operating like a kind of visual music. An architect like Le Corbusier, who both painted and designed buildings, clearly carried compositional ideas between one and the other, and theorised about it. In particular, Aalto seemed to be attracted by changing degrees ‘from flat plane to high relief’ of oil colours due to the material’s viscosity.<sup>71</sup> As we can see in his abstract oil paintings, there exist many clues for

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<sup>68</sup> If one enters the house, (s)he first sees Helene Schjerfbeck’s ‘Self-Portrait’ but the view is dominated by Kai Fjell’s painting ‘Sommaratt’ hung in the living room. In the living room, the large window and the staircase could also be regarded as artworks and Tyko Sallinen’s ‘Late Winter’ on the partition wall would draw his or her gaze. Continually, (s)he could appreciate Fernand Léger’s ‘Composition with Contrasting Colours’ in the dining room, Gunnar Elfgren’s marble portrait of Maire Gullichsen on the desk in the library and the small nude study by Matisse in the music room. For more detail of the early art display and for Maire’s art collection in the house, see Suominen-Kokkonen, R. (2004) *A Library of Art? – The Villa Mairea and Notes on the Gender of the Art Collector*, Pori Art Museum, Pori, pp. 40-42.

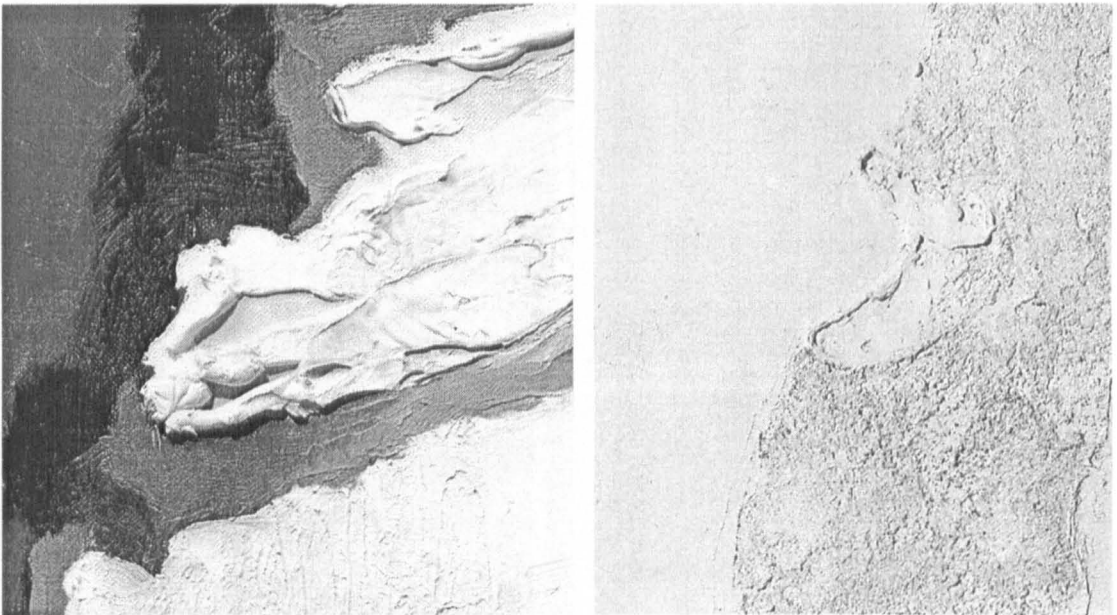
<sup>69</sup> But he did not want to be a painter as an independent career. Schildt, G. (1984) *Alvar Aalto: The Early Years*, Rizzoli, New York, p. 157.

<sup>70</sup> *Ibid.* p. 153.

<sup>71</sup> Fleig, K. (1969) ‘The Relationship between Architecture, Painting, and Sculpture’. In Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, pp. 265-269, and Hoesli, B. (ed.) (1980) *Alvar Aalto Synopsis*, Birkhäuser Verlag, Basel, Boston, Stuttgart, pp. 24-26.

architectural ideas. For instance, applied oil colours and canvas texture suggest a surface treatment of buildings. Particularly, one oil painting with applied sand reminds us of a fragment of a white plastered wall. Besides the materiality, some of them also imply architectural plans and building façades.

[Fig. 5-40] Oil painting detail with high relief, 1945 (left) and oil painting with sand application, 1949 (right)

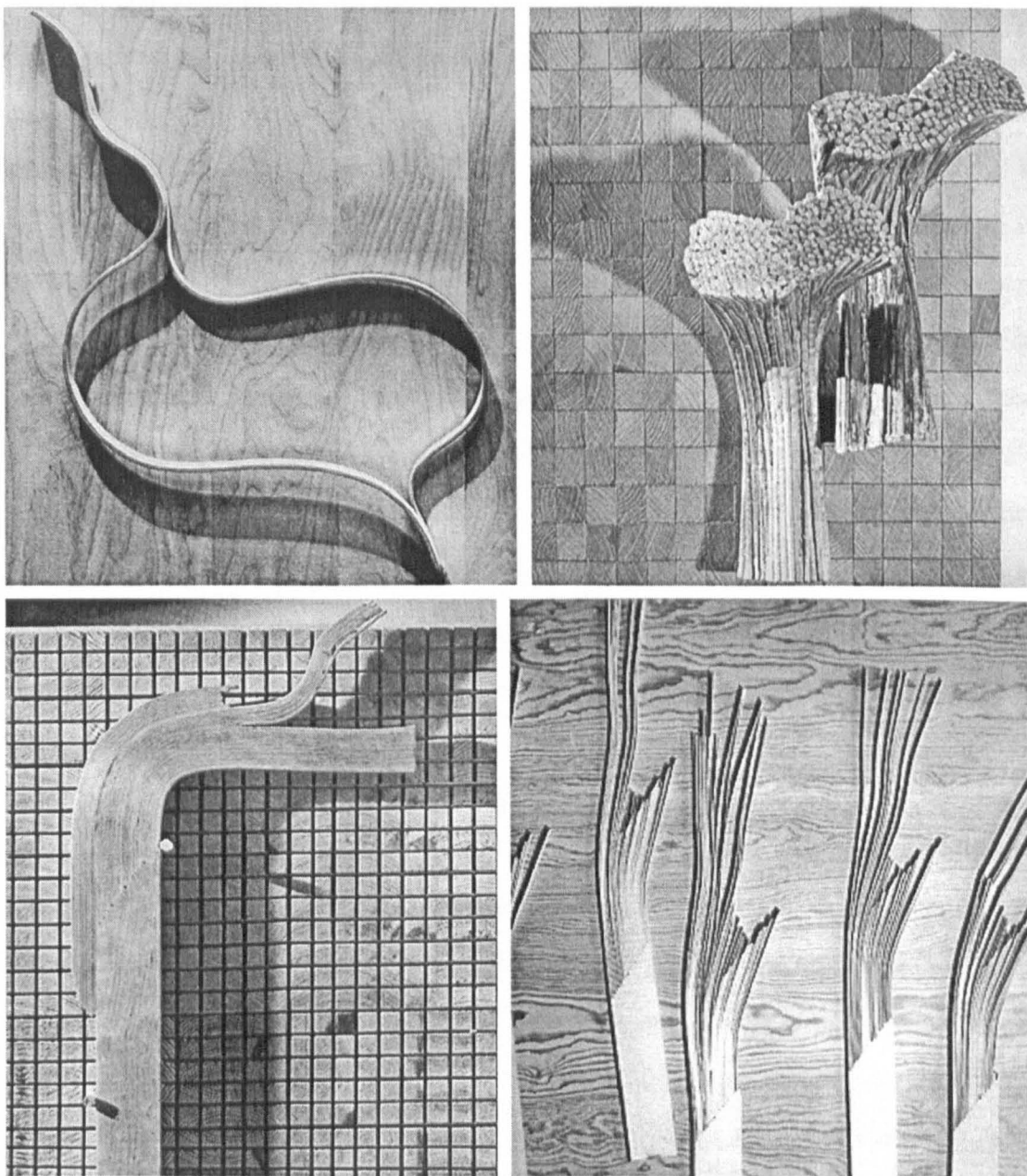


Along with paintings, experimental wood reliefs and sculptures were also very important sources of inspiration to his architecture as well as furniture. The sculptural indentation of the Villa Mairea fireplace can be seen as an extension of the high relief in his oil painting and wood sculptures. For Aalto, to get '*materia*' through painting and sculpting became a fountain of ideas for architectural designs. In his interview with Fleig (1969), Aalto used the Latin word, *materia*, which means mainly 'materials' but also includes 'an intellectual process' in his view. So to speak, it is 'an intellectual analysis of the chosen material' and is the very thing that combines architecture, painting, and sculpture.<sup>72</sup>

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<sup>72</sup> *Ibid.*

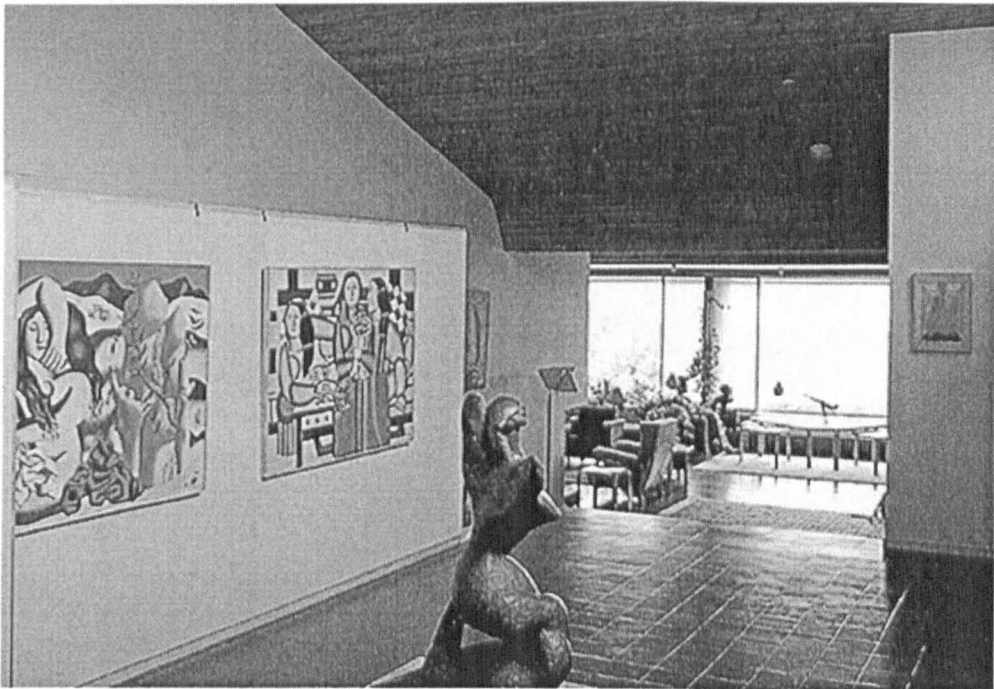
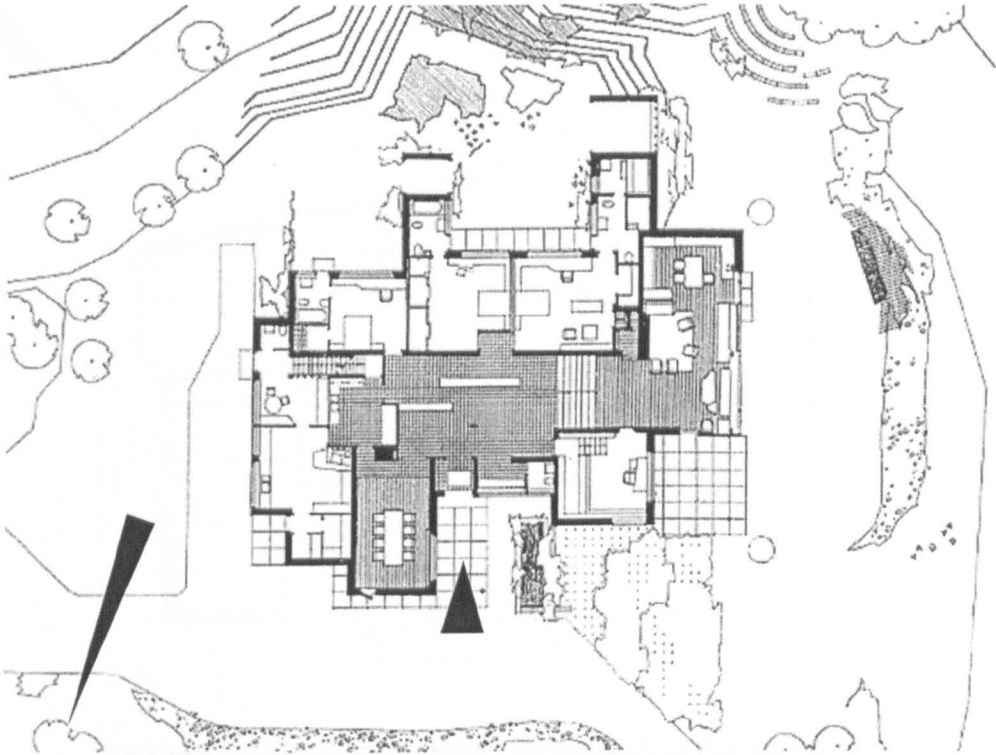
[Fig. 5-41] Various wood experiments



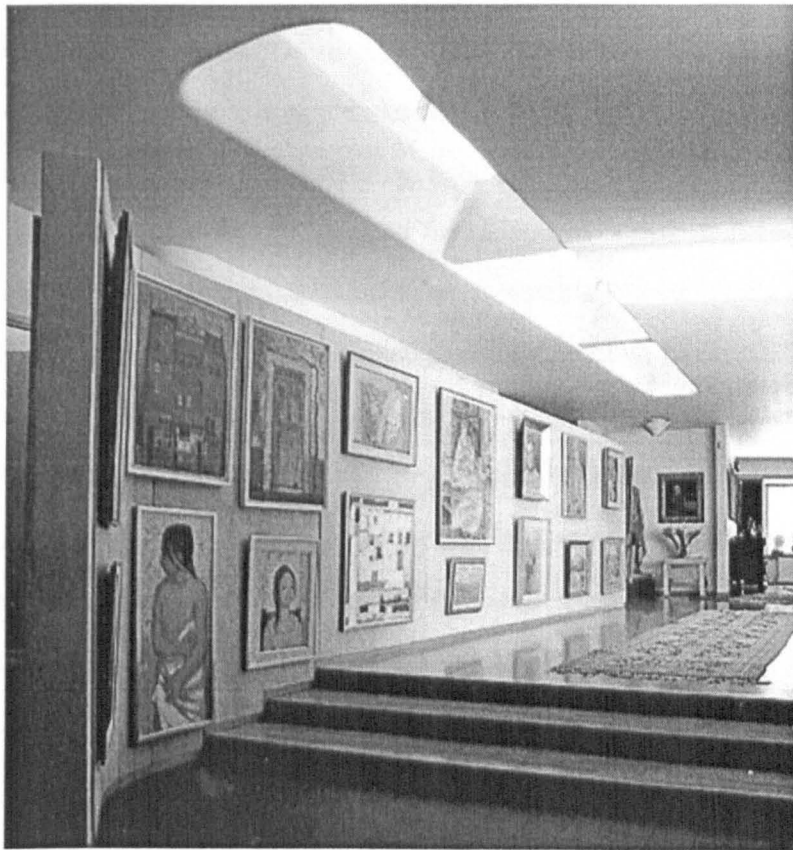
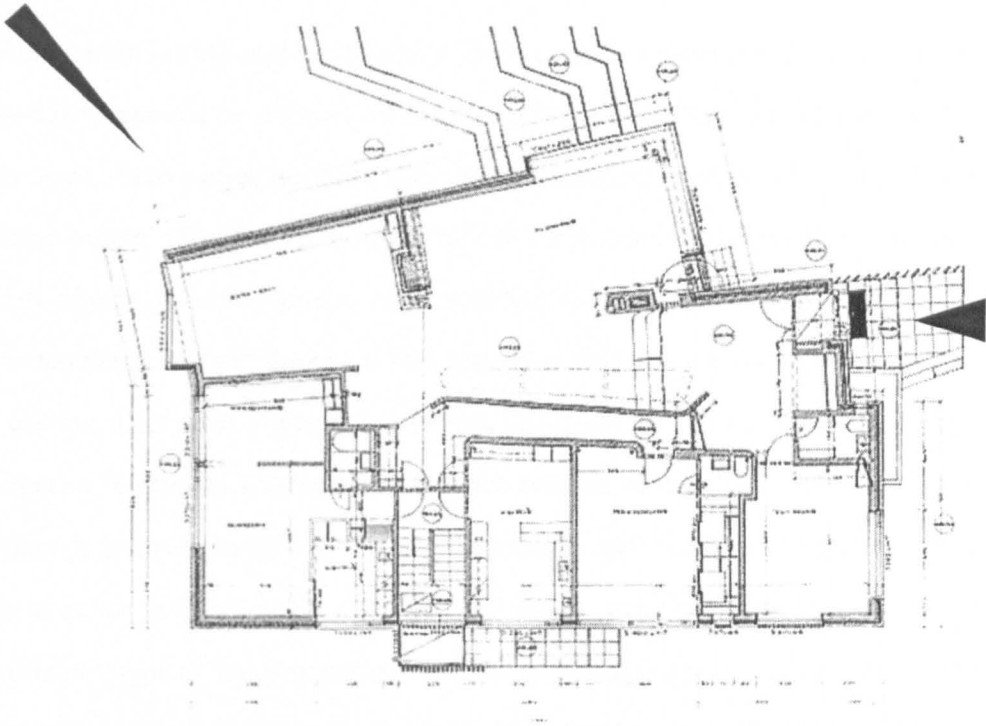
In his later career, Aalto gained two further chances to design art exhibition spaces in single houses: one is Maison Carré (1956-61) in Bazoches-sur-Guyonne, France, for the art dealer Louis Carré; and the other is Maison Aho (1964-65) in Rovaniemi for the art collector Aarne

Aho. Each of them has an interesting concept for the display of artworks comparable with that of the Villa Mairea. In Maison Carré, the large entrance hall is the space for exhibiting paintings and sculptures. If we enter the house, we face two huge partition walls where paintings are hung. Because of their mobility and storage function, we can regard them as a direct revival of the partition wall concept in the Villa Mairea. And, a large skylight in the entrance façade that illuminates the displayed artworks makes the entrance hall more of a proper exhibition space. This hall also acts as a circulation core, as from here we can arrive at the living room to the right, at the dining room to the left, and at the master bedrooms behind the partition walls. Whereas the exhibition walls of Maison Carré stand facing the entrance door in front, that of Maison Aho stretches ahead from the entrance hall to the mouth of the dining room (RUOKASALI). By doing so, Maison Aho, which has a relatively moderate scale compared with Maison Carré, could secure its exhibition space, as well as the wall directly leading the circulation in the house. The exhibition space is also lit by natural light as in Maison Carré, but the light drops directly from the right above the exhibition wall through the roof windows. In this case, the exhibition wall was fixed from the start unlike the precedents. Comparing the three houses, we can define consistent concepts of designing art exhibition spaces within a single-family house. Aalto avoided a separate gallery and tried to fuse the space with living areas. In both cases, Aalto designed the exhibition space directly linked to the entrance hall, which may give visitors the first impression of the house very strongly. Though he did not express any particular interest in natural light for the exhibition space in the Mairea design except in the 'Proto-Mairea', the later works illustrate it clearly. And his concept of movable partition walls with a storage function was again applied in Maison Carré but not in Maison Aho. Considering these examples, it might not be impossible to apply Aalto's concept of space related with art to a small apartment or a single room, as he asserted. Namely, Aalto's vigorous experimentation in the Villa Mairea and its trial and error offers a threshold to his later designs.

[Fig. 5-42] Maison Carré plan and entrance hall with exhibition walls, 1956-61



[Fig. 5-43] Maison Aho plan and entrance hall with exhibition wall, 1964-65



### 5.2.3. Interior Landscape

When Schildt (1984) explained Aalto's 'inner exterior' relating to the Cézanne influence, he based his argument on Aalto's [Aitta] article, 'From Door Step to Living Room' (1926).<sup>73</sup> In this piece, Aalto carried his point with some illustrations. First of all, through Fra Angelico's 'Annunciation' (Fig. 5-44), he suggested 'an ideal example of 'entering a room'' with 'the trinity of man, room and garden'. In this picture, the vestibule becomes a wonderful mediator between the garden and the room. This concept is linked to the peristyle of a Pompeian house in another illustration. Aalto also presented an interior of Corbusier's house design with the comment: 'Latter-day Classicism. A brilliant example of the affinity of the home interior and garden. Is it a hall, beautifully open to the exterior and taking its dominating character from the trees, or is it a garden built into the house, a garden room?' This garden room – Corbusier's typical 'hanging garden' for flats on 'the cellular or "honeycomb" system blocks' – was originally presented at the Esprit Nouveau Pavilion at the Exhibition of Decorative Art in Paris, 1925 and published in his [Urbanisme] (1925).<sup>74</sup> Here, we can understand how Aalto was fascinated by Le Corbusier's example that amalgamates 'the home interior and garden', where we cannot clearly distinguish interiority from exteriority, and *vice versa*. Finally, he brought up the atrium house that he designed for his brother Väinö in 1925. It seems that Aalto regarded this house type as an alternative in which he could fuse exteriority with interiority in a Finnish context, following Italian precedent. In brief, he revealed in this article his hope to blur the traditional demarcation between the interior and the exterior, a concept shared with Le Corbusier.<sup>75</sup> However, Aalto emphasised more the exteriority of the interior rather than the interiority of the exterior, which is the point in which Aalto was different from Corbusier who thought more of the exterior as the interior, as Schildt commented. In fact, Aalto did not lay stress more on the exteriority of the interior in the article, as much as in his

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<sup>73</sup> Aalto, A. (1926) 'From Door Step to Living Room', *Aitta*, Otava, Helsinki. Republished in Schildt, G. (1984) *Alvar Aalto: The Early Years*, Rizzoli, New York, pp. 215-216, and in Schildt, G. (1997) *op. cit.* pp. 50-55 with a little different translation. Here, I followed the former.

<sup>74</sup> Le Corbusier (1987) *The City of To-Morrow and Its Planning*, Dover, New York, p. 225.

<sup>75</sup> Schildt, G. (1984) *op. cit.* p. 220.



buildings. Nevertheless, it is already implied in the article. He considers the severe climate of Finland.

Nordic climate, which requires a sharp differentiation between the warm interior and the surroundings, has become a stumbling-block for architects. ... It was cautiously hinted above that our cold climate might do violence to the unity which should link the interior and exterior of our homes, with the result that the entrance section cannot be given the elegant ceremonial form it has in the civilized climatic zones of the south. ... We might say: the Finnish home should have two faces. One is the aesthetically direct contact with the world outside; the other, its winter face, turns inward and is seen in the interior design, which emphasizes the warmth of our inner rooms.<sup>76</sup>

Because of the long cold winter, Aalto might have more interest in the second ‘face’ among the two. In the progress of his writing, very interestingly, Aalto draws ‘the English hall’<sup>77</sup> as a symbol of ‘the open air under the home roof.’

One of the possible ways to arrange and furnish the entrance section is the English hall. If the thoroughly British art of interior design has brought much that is good in its wake, misinterpretations of it have also given rise to parodies in thousands of homes. The British psyche is foreign to us and does not readily take root in our soil, but one feature decidedly deserves to be noted. One of those large, spacious rooms with an open fireplace, a rustic floor and a form which differs from that of the other rooms has a psychological function apparent to the sensitive eye. It symbolizes the open air under the home roof. ... This idea of the hall as an open-air space can form a piece of the philosophers’ stone, if correctly used. ... For the same reason as I previously wished to turn your garden into an interior, I now wish to make your hall into an ‘open-air space’. This is one way to

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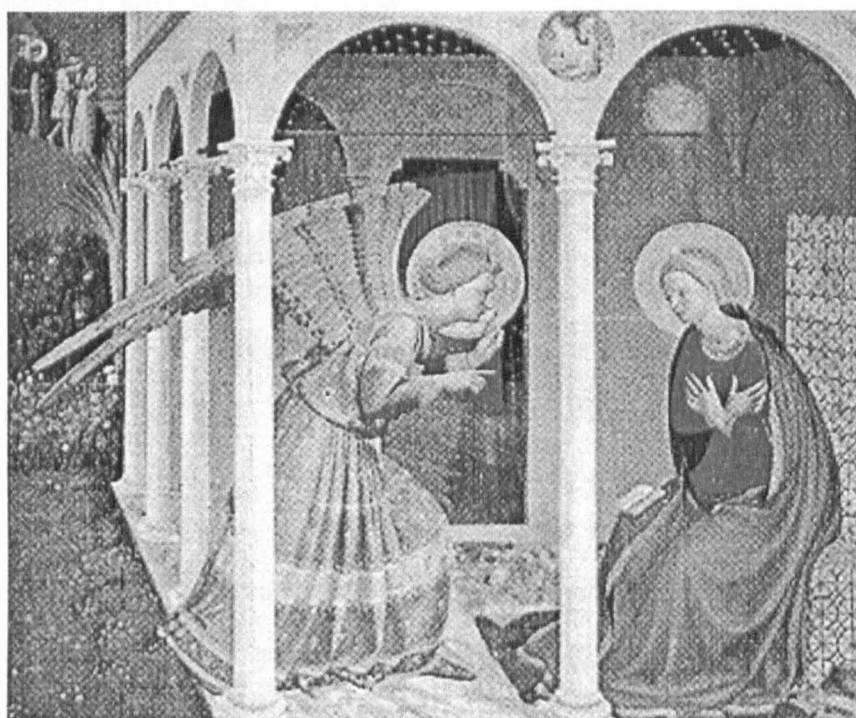
<sup>76</sup> Aalto, A. (1926) *op. cit.*

<sup>77</sup> As we can guess from Aalto’s description of ‘parodies in thousands of homes’, the English house’s influence on Finland must be quite prevalent at that time. It might be through the design magazine [The Studio: An Illustrated Magazine of Fine and Applied Art] that had been published since 1893 and widely read in Finnish art circle. See Gallen-Kallela-Sirén, J. (2003b) ‘Kalela: The Cradle of Axel Gallén’s Art and Modern Finnish Design’, *Kalela* [online], The Kalela Museum. Available from: <http://www.kalela.net/Akseli%20Gallen.htm> [Accessed 28<sup>th</sup> January 2004]. Perhaps, Muthesius’s [Das englische Haus] (1904) was also a possible source on English houses.

minimize the contrast between them and to hint at how one should furnish the room which provides a point of transition between 'outdoors and indoors'.<sup>78</sup>

Although Aalto borrowed 'the English hall' to explain 'an open-air space' in the inside, Finnish architecture has already had a similar characteristic. That is to say, Glanville (1977) maintains that 'an internal courtyard' – 'a courtyard inside the building' – is essential to Karelian farmhouses of Eastern Finland.<sup>79</sup> And this characteristic was taken up in the spacious living room of Gallen-Kallela's Ruovesi studio, Kalela (1891-95), as I described in a former chapter.

[Fig. 5-44] The Annunciation by Fran Angelico, 1432-33, Museo Diocesano, Cortona

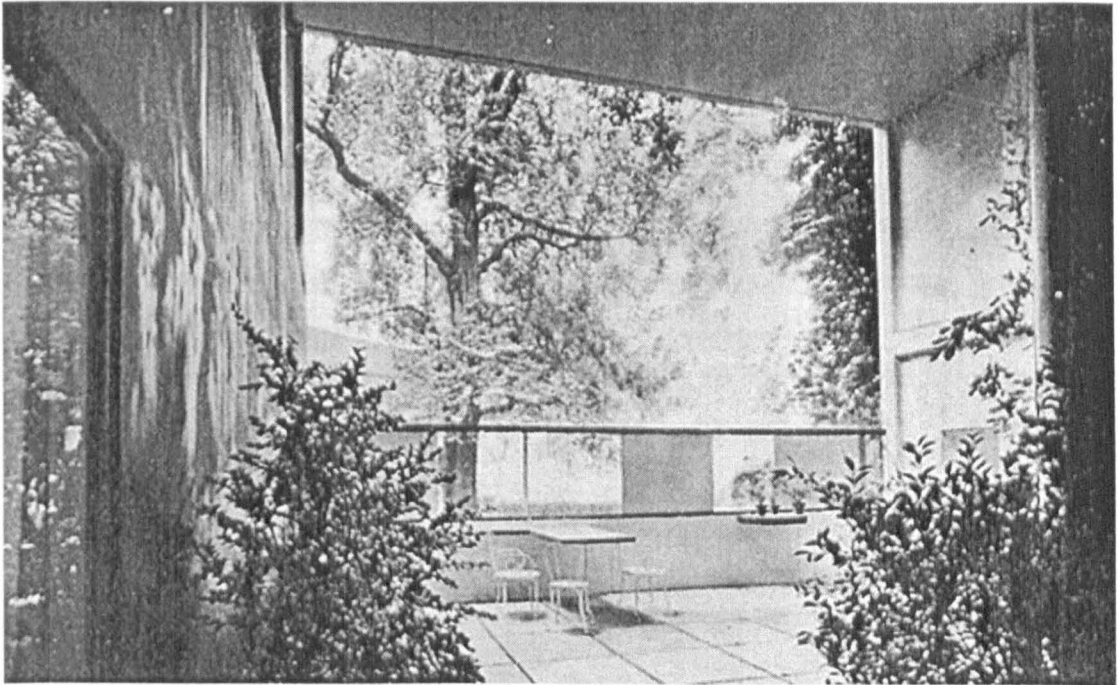


<sup>78</sup> *Ibid.* p. 216.

<sup>79</sup> Glanville, R. (1977) 'Finnish Vernacular Farmhouses', *AAQ*, vol. 9, no. 1, p. 44.

It is the cornerstone of my argument that, as one moves from west to east across Finland, the external courtyard is gradually converted to be internal, and that the very existence of such courtyards both internal and external, in virtually every Finnish building, is the key to the 'Finnishness' of Finnish architecture, from the remotest past right up to the present day.

[Fig. 5-45] Le Corbusier's amalgamation of exterior and interior: 'One of the "hanging gardens" to each flat, 15, 30, or 60 feet above the ground. (Shown at the Esprit Nouveau Pavilion at the Exhibition of Decorative Art in Paris, 1925)',<sup>80</sup>



In the Villa Mairea, Aalto attempted to create a wonderful landscape in the living room just as he regarded the courtyard as an outdoor room. The interior landscape was, above all, seen in the early sketches (see Fig. 3-22). Particularly, the undulating studio wall is reminiscent of *auróra boreális* or a cliff, and the stairs to the upper floor of a cascade or the slope of a mountain. So to speak, the various level changes made the diversified interior landscape possible. However, in the executed house, where the level changes disappeared, the living room got different exterior effects. One of them is through the large living room windows. Even when we are sitting inside the living room, we can enjoy the outside view – the courtyard and forest beyond it. Especially, if the windows – glass walls – are removed, even the least boundary between the inside and the outside also collapses. One photograph (see Fig. 5-11) kept in the Museum of Finnish Architecture shows the interaction of the interior and the

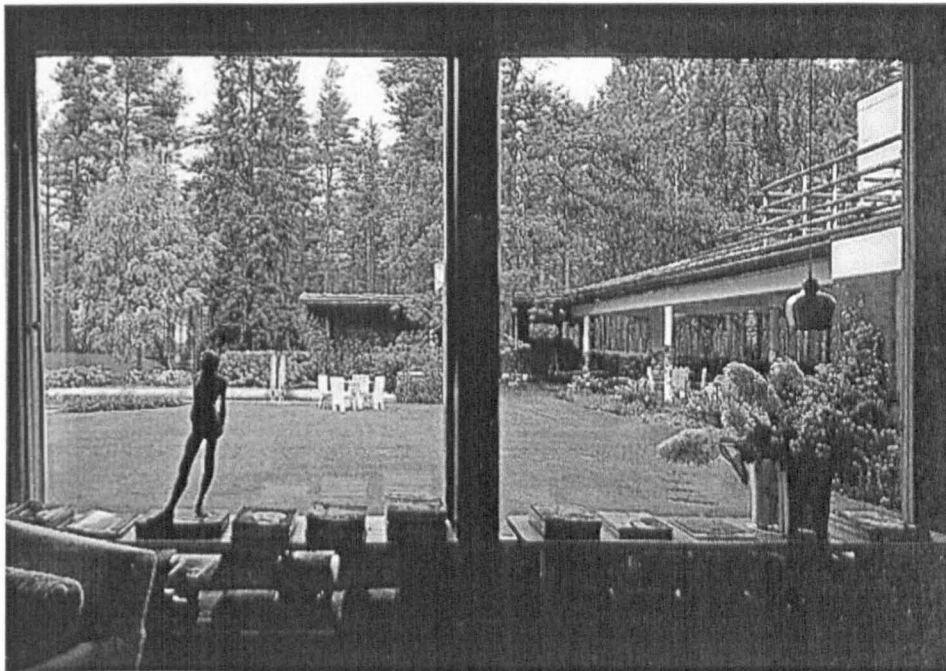
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<sup>80</sup> Le Corbusier (1987) *op. cit.* p. 225.

exterior when the windows were removed, with Maire Gullichsen and Aino Aalto standing and sitting down between the two. Indeed, Aalto mentioned it in ‘Some technical details’ of ‘Mairea’: ‘Some of the external walls are also movable, making it possible to “open the house completely toward the garden.”’<sup>81</sup> Giedion described this situation using his favoured word, ‘interpenetration’<sup>82</sup>:

The broad windows permit the interpenetration of inner and outer space; the forest seems to enter the house and find its concomitant echo in the slender wooden poles employed there. ... The moment you are on the level of the main living room, the slender poles arranged at irregular intervals on both sides of the wooden staircase captivate you by the way they separate it and yet permit space to penetrate.<sup>83</sup>

[Fig. 5-46] Villa Mairea courtyard through living room window



<sup>81</sup> Aalto, A. (1939b) ‘Mairea’, *Arkkitehti*, no. 9. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, p. 230.

<sup>82</sup> ‘Interpenetration (*Durchdringung*)’ was Giedion’s representative concept with ‘space-time’ in describing modern architecture, especially each in [*Bauen in Frankreich, Bauen in Eisen, Bauen in Eisenbeton*] (1928) and in [*Space, Time and Architecture*] (1941). See, Heynen, H. (1999) *Modernity and Architecture*, MIT Press, Cambridge MA and London, pp. 29-43.

<sup>83</sup> Giedion, S. (1967) *Space, Time and Architecture*, Harvard University Press, Cambridge MA, pp. 646-648.

Another exterior effect in the interior was well embodied in the winter garden or the flower arranging room. Though it is an inside space, the rustic treatment of the stone floor and the brick table distinguishes the space from the pure indoor room. In addition, doors between the winter garden and the studio piloti space enable direct contact between them and show its intimacy with the outdoor space. Nevertheless, the most important exterior atmosphere, which makes a dramatic interior landscape, is 'forest effect'. That is to say, I want to call the interior of the Villa Mairea 'a forest in a forest'. I will describe this in the next chapter.

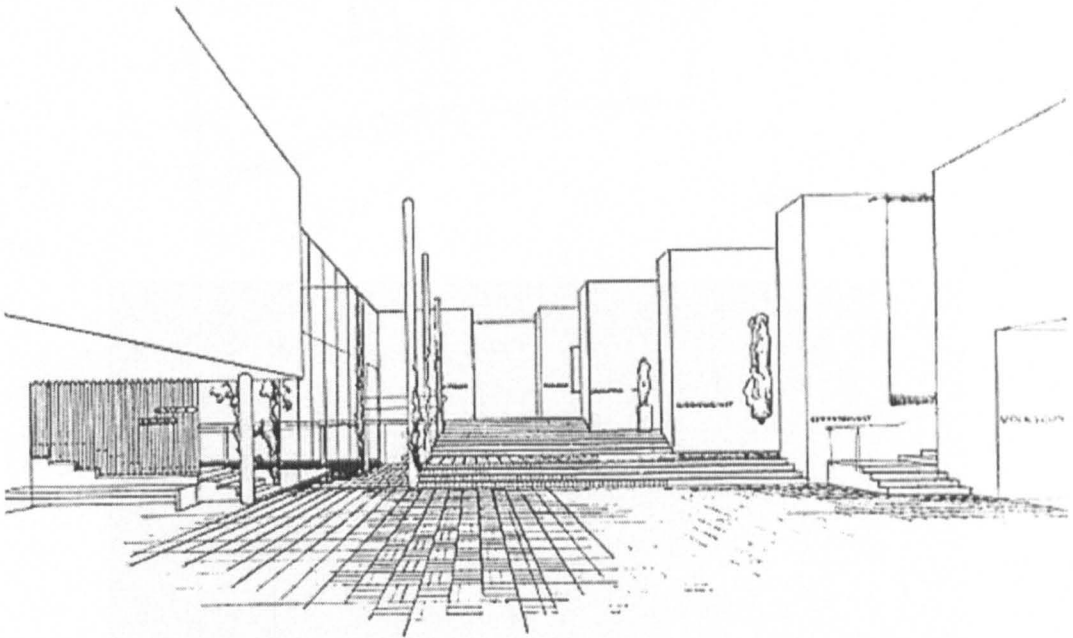
This interior landscape had been tried before the Villa Mairea in projects such as his 'Tsit Tsit Pum' entry for the Finnish Pavilion at the Paris World's Fair in 1937 (see Fig. 5-50) and in a competition entry for Tallinn Art Museum (1937). In both cases, we can experience an ever-growing space as we proceed through the rising terraced halls. Particularly, the interior perspective from the entrance hall of Tallin Art Museum assumes a street landscape, in which an articulated façade, alluding to several building masses, dominates the right side and we can see a large glass wall to the left. The transparency of the glass wall draws the outdoor space of the enclosed courtyard to the interior. As a result, the exteriority of the interior street is more intensified. In the Finnish Pavilion for the New York World's Fair of 1939, Aalto also created a wonderful interior landscape with the 'Northern lights wall'. Ironically, it was more possible because the Finnish Pavilion design was limited only to the interior of a rectangular box unit. Among his later designs, many concert hall or auditorium foyers form the interior landscape as in the example of Finlandia Hall in Helsinki (1962-71). Considering the first floor plan of the concert hall element, the two concert halls are focal points and the foyer facing them is a large open space. And the three articulated walls of the main concert hall look like an outdoor street façade, or a 'forested region' if we borrow Porphyrrios's term.<sup>84</sup> So, it seems that the outer wall is just enveloping the interior open space, which had been one of Aalto's design

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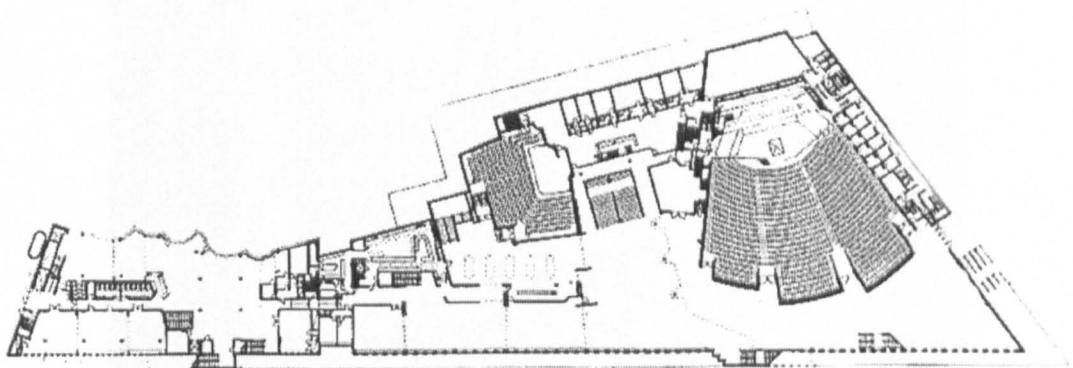
<sup>84</sup> Porphyrrios, D. (1982) *op. cit.* p. 2.

strategies since his Worker's Club (1924-25) in Jyväskylä. Additionally, the interior level change during early design phases of the Villa Mairea, which brought about the diversified interior landscape, appears again in his later works like the Maison Carré (1956-61) (see Fig. 5-42) and Villa Skeppet (1969-70).

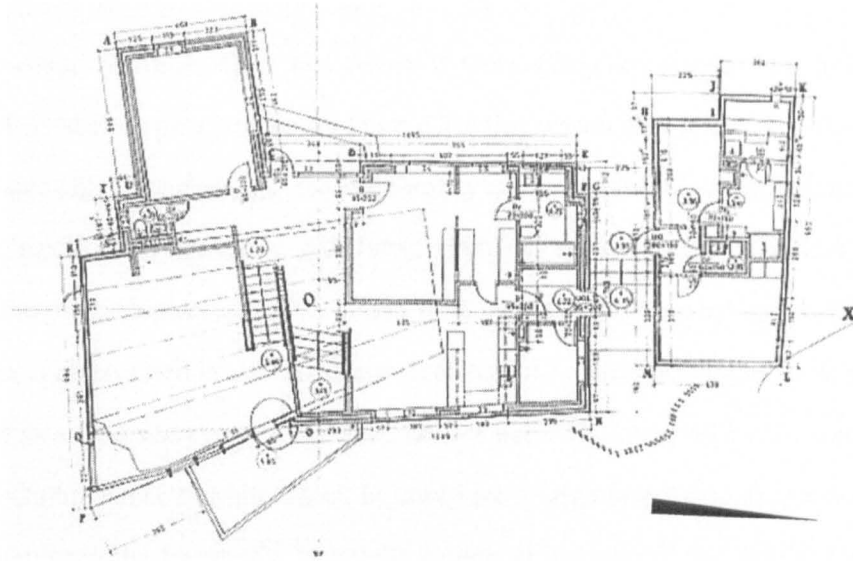
[Fig. 5-47] Competition entry for Tallin Art Museum, 1937



[Fig. 5-48] Finlandia Hall in Helsinki, 1962-71



[Fig. 5-49] Raised floor in Villa Skeppet (Villa Schildt), 1969-70



#### 5.2.4. Forest in Forest

Finland is a land of forest. Over two thirds of the country is covered with forest, of high quality timbers such as pine, spruce, and birch. For this reason, forest has been the base of the Finns' life since history began, and indeed, forestry accounted for more than a third of Finnish export earnings in 1985 (Singleton and Upton, 1998). Moreover, forest is the home of Finnish spirit and the psychological origin as hinted in [Kalevala], the national epic of Finland, and *Karelianism* is always tied to a forest image. It also applies more personally to Aalto. Because his father was a land surveyor, *i.e.* forester, he was naturally intrigued by the forest from his childhood. On his father's 'white table', he could see a large forest map at age four,<sup>85</sup> and he enjoyed hunting in the forest of a Jyväskylä suburb in his teens.<sup>86</sup> As Schildt (1984) put it, 'For Aalto hunting was a form of communion with nature,'<sup>87</sup> and 'Insight into the world of the forest – forest wisdom – is at the heart of everything Aalto created'.<sup>88</sup> If the prairie was a source of inspiration to Wright and the Alpine landscape of La Chaux-de-Fonds to Corbusier, the Finnish forest was an unceasing fountain of ideas for Aalto. In any of Aalto's mature works, it is not difficult to notice 'fragments from the forest'.<sup>89</sup>

The Villa Mairea is located in a clearing of a pine forest without a precise border. It could not but make Aalto deeply conscious of the Finnish typical environment, forest, from the beginning, and gave him a good chance to experiment with a forest atmosphere and its component, columns. According to Schildt (1986), this forest concept, which he named 'forest space',<sup>90</sup> had been already tested in two Finnish pavilion entries for the Paris World's Fair,

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<sup>85</sup> Aalto, A. (1970s) 'The White Table'. Republished in Schildt, G. (ed.) (1997) *Alvar Aalto in His Own Words*, Otava, Helsinki, pp. 11-12.

<sup>86</sup> Schildt, G. (1984) *op. cit.* p. 59.

<sup>87</sup> *Ibid.* p. 59.

<sup>88</sup> *Ibid.* p. 34.

<sup>89</sup> Menin, S. (2001) 'Fragments from the forest: Aalto's requisitioning of forest place and matter', *The Journal of Architecture*, vol. 6, Autumn 2001, pp. 279-305.

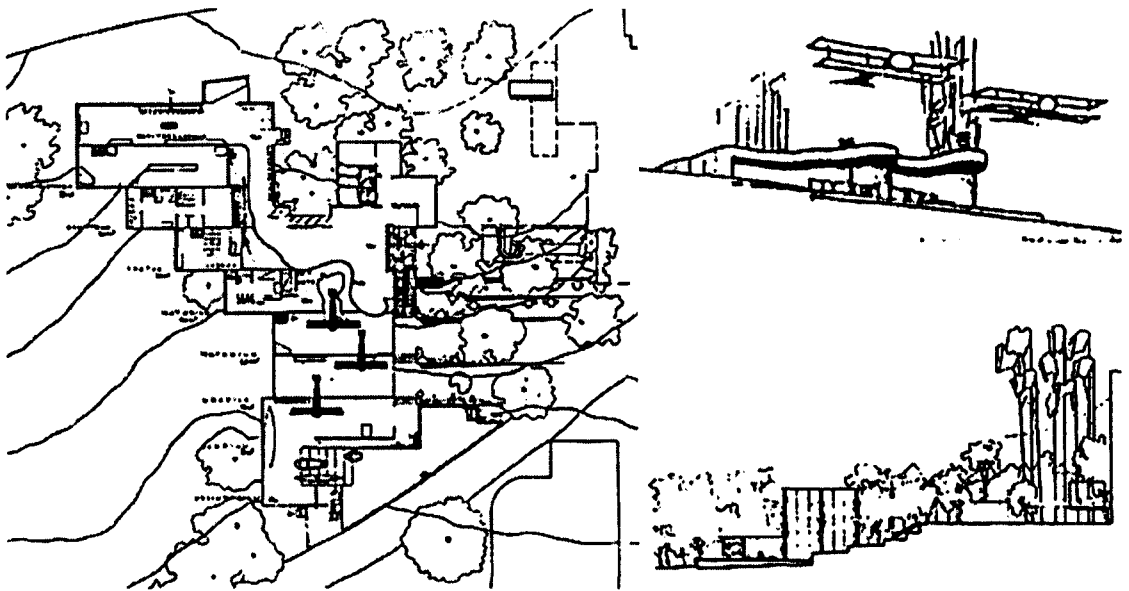
<sup>90</sup> Schildt, G. (1986) *op. cit.* pp. 131-134.

Aalto's pavilion ("Tsit Tsit Pum") was literally a *forest space*, related to the spatial experience of wandering among tree trunks, rocks and bushes in the broken terrain of a Nordic forest.



1937: one was 'Tsit Tsit Pum'; the other 'Le bois est en marche'. There, Aalto designed tall flagpoles, lashed columns and continually changing spaces, which make us feel as if we wandered through a forest. Particularly, in the executed first prize scheme, 'Le bois est en marche', the forest image was embodied uniquely through vertical timber lines on the pavilion wall and grouped timber poles lashed with rattan. And, above all, the rustic treatment of the rattan banding, which was bound *in situ* by handicraft, recalled a primitive and exotic dwelling at the central city of modern culture. While Pearson (1978) guessed that Aalto had learned the lashed pole support of 'raftmakers, campers, and scouts' from his father and an expert woodsman,<sup>91</sup> Schildt (1986) maintains that Aalto's idea originated from African rustic pavilions at the Brussels World's Fair of 1935.<sup>92</sup> Familiar from childhood, noticed in Brussels and tried first in Paris, this traditional skill was elaborately experimented on in the Villa Mairea.

[Fig. 5-50] 'Tsit Tsit Pum' (2<sup>nd</sup> prize plan), Finnish pavilion for Paris World's Fair, 1937

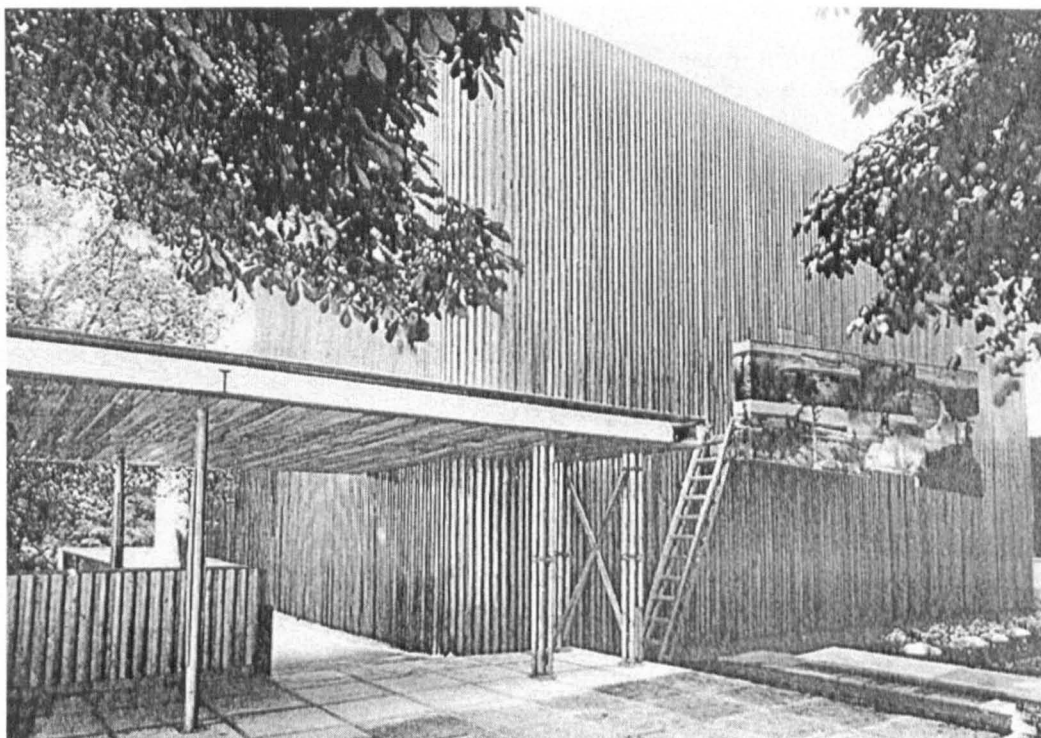
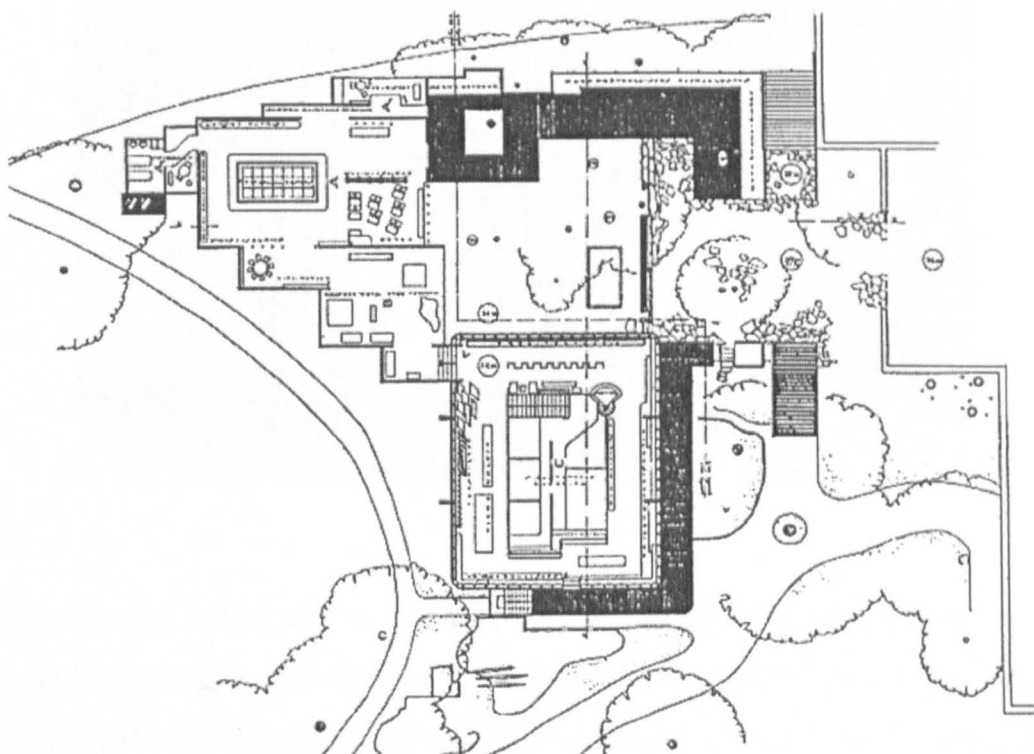


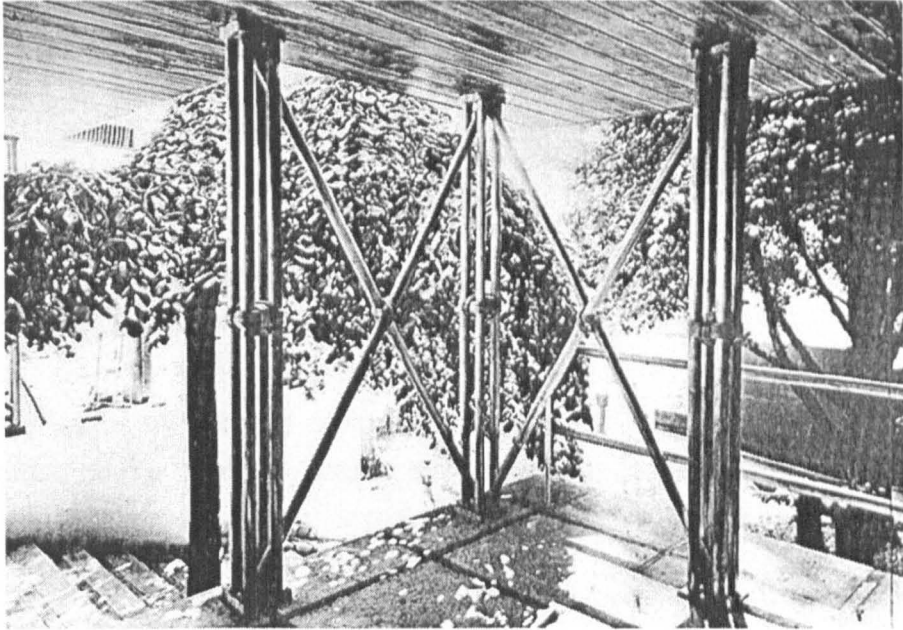
... The 'forest space' motif was also present ("Les bois est en marche"), although in a more discreet form than in "Tsit Tsit Pum". Wandering through the secondary pavilions, the visitor truly felt he was walking in the woods, with their ever-changing perspectives and spatial forms, ...

<sup>91</sup> Pearson, P. D. (1978) *Alvar Aalto and the International Style*, Whitney Library of Design, New York, p. 14, 232.

<sup>92</sup> Schildt, G. (1986) *op. cit.* pp. 117-118,

[Fig. 5-51] 'Le bois est en marche' (1<sup>st</sup> prize and executed plan), Finnish pavilion for Paris World's Fair, 1937





In order to arrive at the house, we should pass through the Finnish natural forest, but another layer of forest could be experienced in the Villa Mairea. To begin with, the screen made up of thin poles under the entrance canopy suggests trees standing densely, and it becomes a good match with the real forest around it. In the entrance hall, these poles appear with slightly different, decorative forms, and after all we stand at the climax of the ‘forest space’ when we reach the main staircase. Therefore, the Villa Mairea is a ‘forest in forest’, and the entrance – canopy space outside and hall inside – is a sensitive mediator to connect the microcosmic forest of the inner world with the real forest of the outer one. Also, this wonderful embodiment of forest in the Villa Mairea is enhanced by the dynamic movement in the living room and the spatial interpenetration between the interior and the exterior through the large windows. The concept of ‘forest space’ in this house was raised first by Schildt (1986):

*The Mairea’s “single living room” is open not only throughout its inner dimensions, but also outward through the glass wall which faces the inner garden and can be pushed aside behind the fireplace. ... This type of ‘forest space’, which is not dependent on any stereometric scheme, became Aalto’s principal architectural*

theme from the Mairea on.<sup>93</sup>

And it was more elaborated by Weston (1992):

This conception of 'forest space' provides a key to understanding Aalto's intentions in the Villa Mairea. Walking around the living room, one experiences ... something very much akin to the feeling of wandering through a forest in which spaces seem to form and re-form around you: in a forest, the individual feels himself to be the moving centre of its spaces. For Aalto such 'forest spaces' provided both a means of 'naturalizing' his architecture and also of achieving a 'democratic', non-hierarchical organization conceived around 'the small man' for whom he wished to build.<sup>94</sup>

[Fig. 5-52] Pine forest around the Villa Mairea

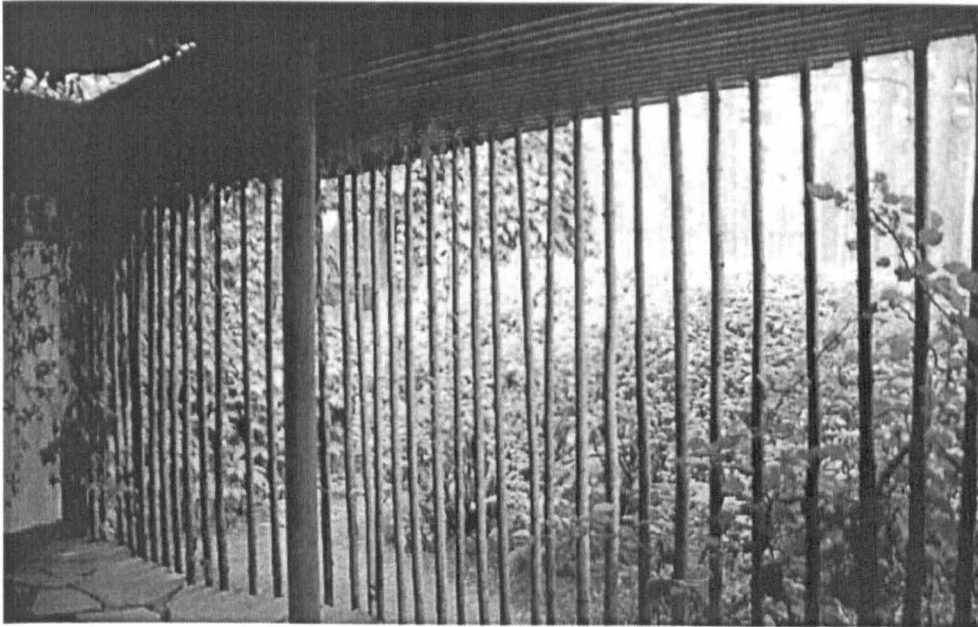


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<sup>93</sup> Schildt, G. (1986) *Alvar Aalto: The Decisive Years*, Rizzoli, New York, p. 160.

<sup>94</sup> Weston, R. (1992) *Villa Mairea*, Architecture in Detail, Phaidon, London

[Fig. 5-53] Screen of unbarked saplings under the entrance canopy: sensitive mediator between the real forest of the outer world and the microcosmic forest of the inner one

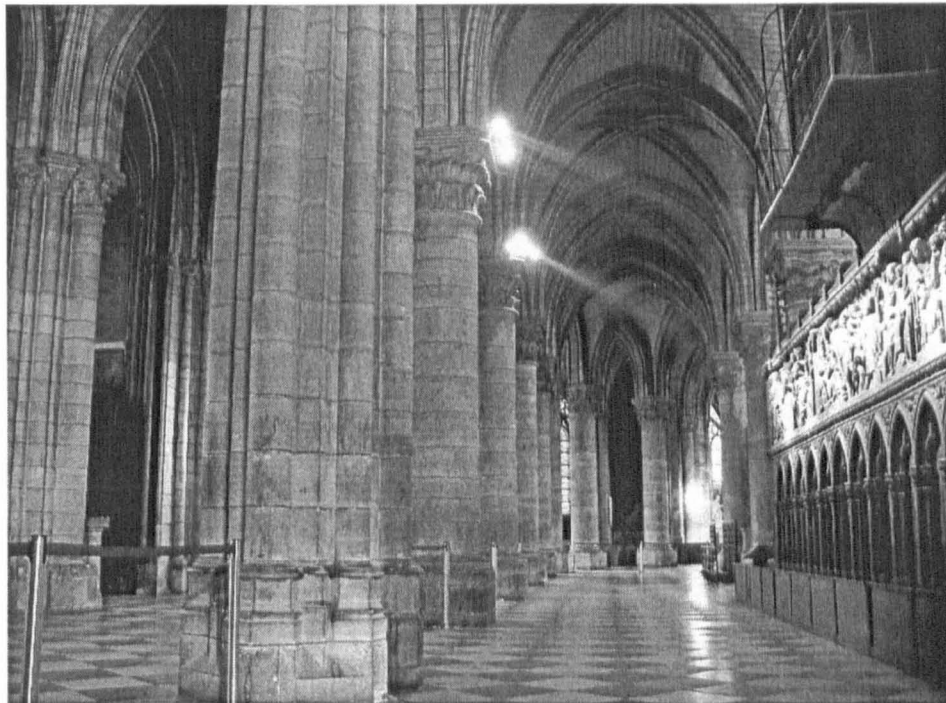


[Fig. 5-54] Inner forest: main staircase left, single column bound by rattan in the middle, and entrance hall right



This 'forest space' in the Villa Mairea contrasts with another 'forest space' of the Gothic cathedral. In a Gothic cathedral, columns between nave and aisle suggest a row of trees, and vaults with ribs and panels represent branches and leaves of the trees. David Watkin (1980) revealed the concept of 'an avenue of trees with touching branches' in the description of William Stukeley's 'notion that Gothic is based on imitation of nature'.<sup>95</sup> And the light from a clerestory is like a streak of light amid a dark forest. Here, we proceed to God along the straight forest road baptised by the light. It is a very static and esoteric space. However, we have only to meander here and there in the forest of the Villa Mairea without any purpose and then we experience an unexpected landscape. The forest in the house is a dynamic and delightful space.

[Fig. 5-55] Notre Dame cathedral in Paris

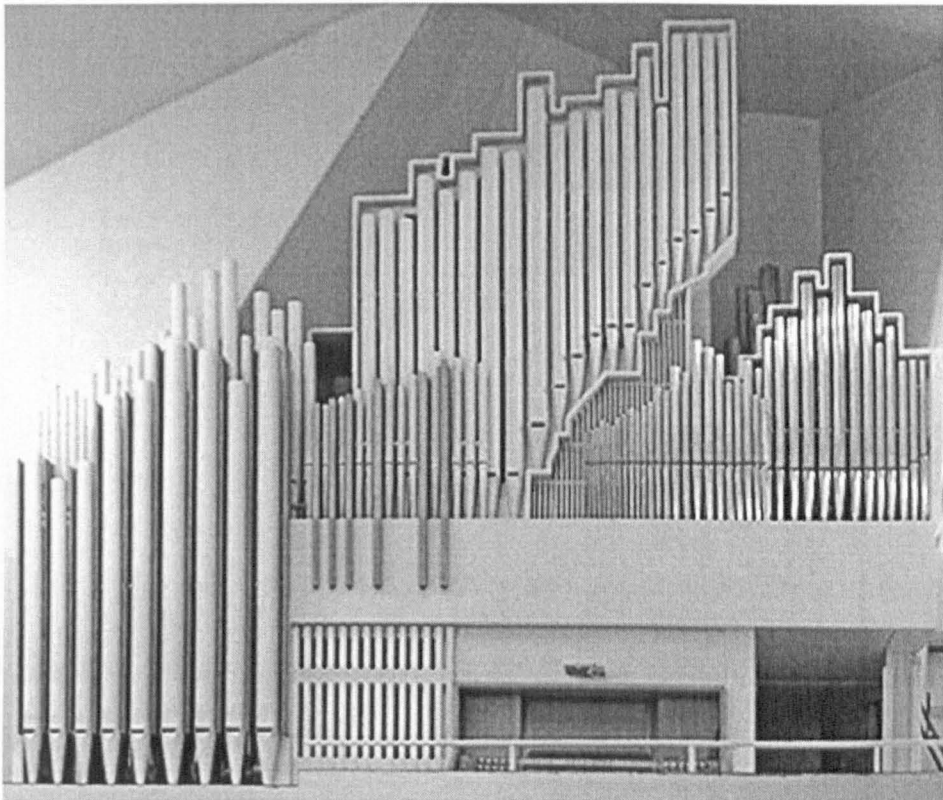


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<sup>95</sup> Watkin, D. (1980) *The Rise of Architectural History*, Architectural Press, London, p. 51. William Stukeley (1687-1765) published [Itinerarium Curiosum ... an Account of the Antiquities and Remarkable Curiosities in Nature or Art observed in Travels through Great Britain] in 1725, which enthusiastically advocates the medieval Gothic architecture.

The main staircase of the Villa Mairea is not only the core of circulation but also the very summit of forest effect. The initial idea of the staircase is indebted to Japanese traditional bamboo fences, as in an early staircase sketch (see Fig. 5-105) – a similar image had been applied to Aalto's own house in Munkkiniemi (1934-36) (see Fig. 5-101). The disposition of the saplings in the executed staircase clearly indicates that Aalto tried to avoid an artificial rhythm. It strikingly contrasts with that of the poles under the entrance canopy. For the unbarked natural poles stand at regular intervals, while the sleekly finished poles in the staircase were positioned randomly. However, the randomness does not mean disorder but harmony, as trees in a forest stand in a natural order. And this rhythm seems to have been translated into the polyphony of pipe organs in many churches designed by Aalto later. If the length of pipes determines the resonance of organs, the interval of poles forms the rhythm in the staircase. For this reason, this staircase is more creative than Fallingwater's suspended staircase (see Fig.3-80) even if Aalto was inspired by Wright.

**[Fig. 5-56] Pipe organ of Three Cross Church in Vuoksenniska, 1956-59**



The most dramatic scene in this interior forest is, most of all, effects of light. When the sun sets, the evening glow that comes through the large living room window splits into many fractions in the screen of the poles as amidst a thick forest. This kind of effect also occurs at the glazed slots in the upper part of the wall between the living room and the library and at the screen of thin poles under the entrance canopy. Weston (1992) described it very picturesquely:

What he did create [in the glazed slot around the library], however, is a marvellous evocation of a horizontal 'slice' of forest, through which shafts of light suggest the familiar broken sunlight of the forest edge – just such a 'slice' of forest, incidentally, is visible between the split levels of the entrance canopy, and a similarly vivid suggestion of forest light is created in the late afternoon when the sun slants through the main staircase.<sup>96</sup>

[Fig. 5-57] 'Shafts of light' at the glazed slots of the library wall



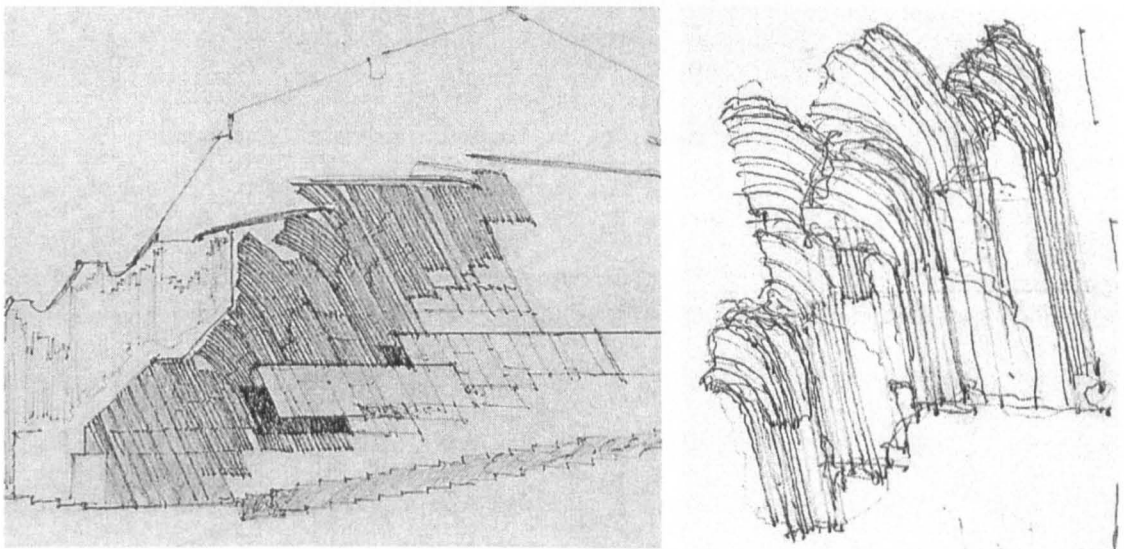
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<sup>96</sup> Weston, R. (1992) *op. cit.*



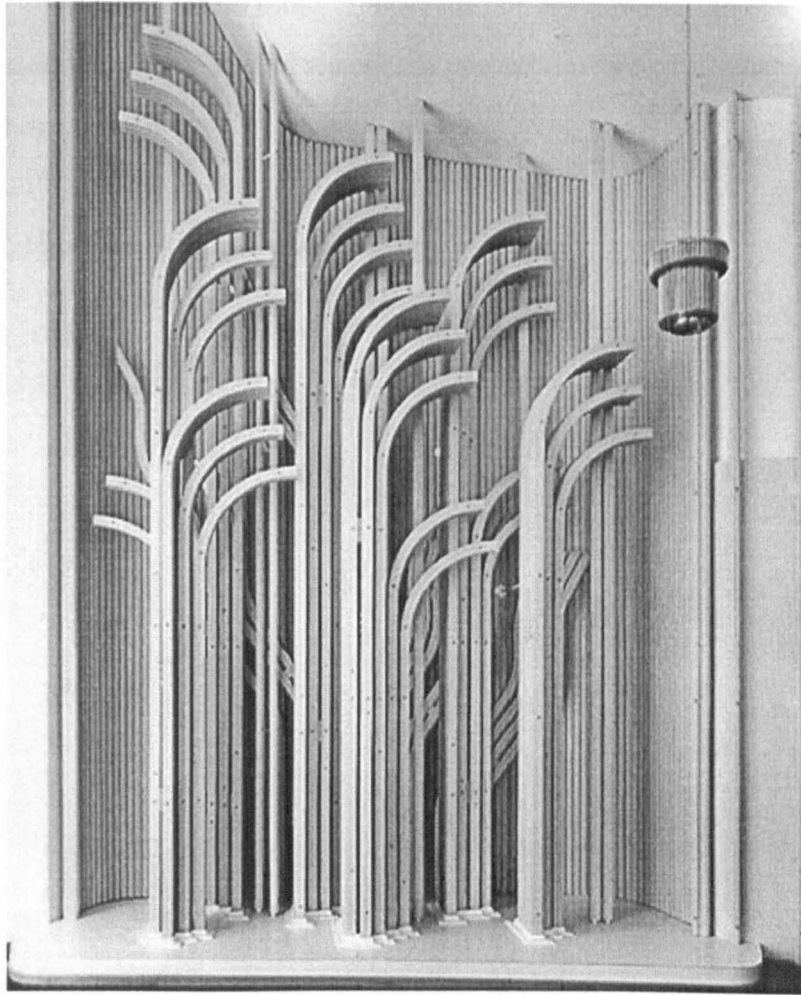
This forest effect itself must be the most excellently embodied architectural entity not only in the house but also through Aalto's whole career. His forest image had appeared, most of all, through repetitive vertical lines with which the romantic curves allude to Finnish nature – trees and lakes, supplementing each other. Most of the repetitive vertical lines were made by thin timbers, and some by varied forms of tiles or marble strips, which were also combined well with various column types. Especially, 'the language of wood fibres' was represented well in Aalto's auditorium designs after the House of Culture (1955-58).<sup>97</sup> On the one hand, it was initiated with the purpose of the acoustic efficiency, and on the other hand, it forms a wood relief aesthetically as showed in Essen Opera House (1959-1988) and Finlandia Hall (1962-71). In addition, the Institute of International Education building in New York (1963-65) might be another good example in which the forest image was realized. For vertical lines on the interior wall surround the main auditorium, and above all, there is a set of wood sculptures that vividly reminds us of trees in a forest.

[Fig. 5-58] 'The language of wood fibres', Finlandia Hall (1962-71) sketches



<sup>97</sup> Schildt, G. (1994) *Alvar Aalto: A Life's Work – Architecture, Design and Art*, Otava, Helsinki, pp. 286-287, which was published in England and US as *Alvar Aalto: The Complete Catalogue of Architecture, Design and Art*.

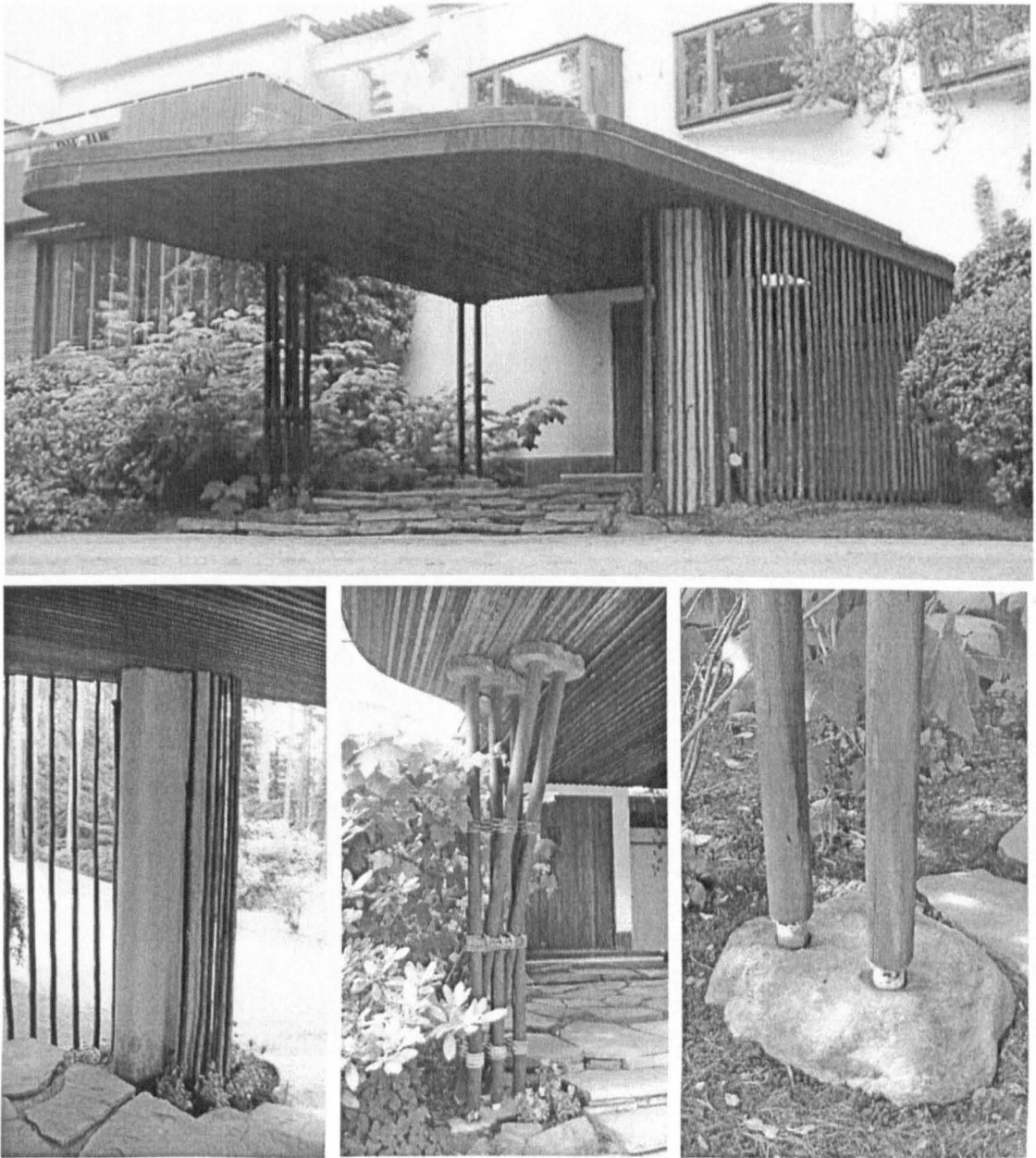
[Fig. 5-59] Wood sculpture in Institute of International Education building, New York, 1963-65



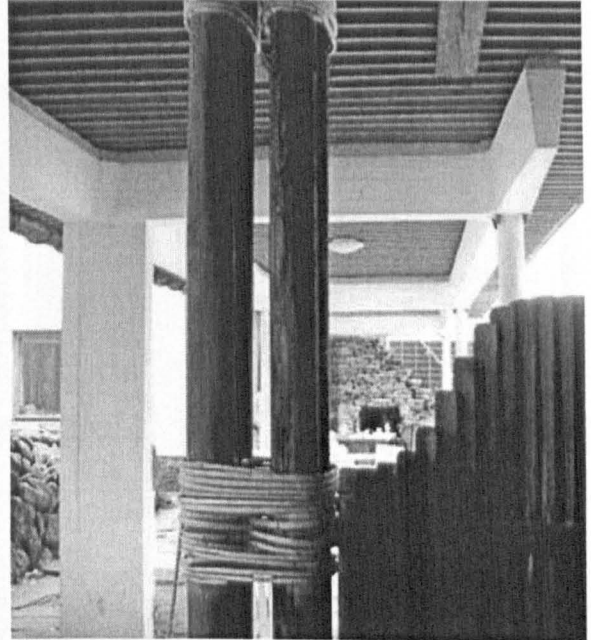
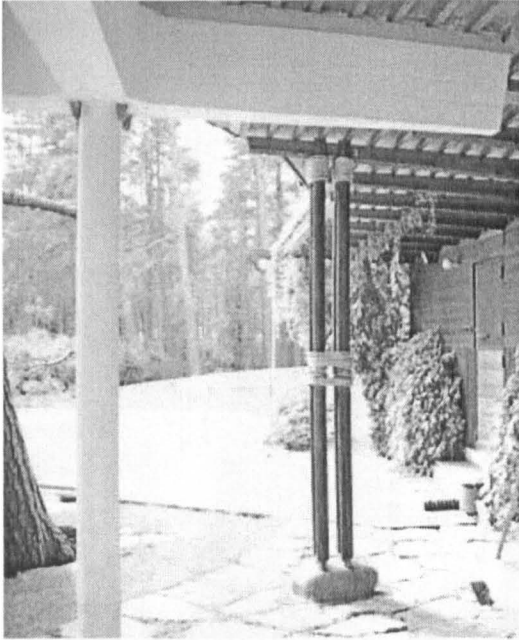
Forest is composed of trees. In other words, forest starts from one tree. It means that columns, alluding to trees, are critical in the 'forest space'. Therefore, columns of the Villa Mairea could be appreciated as important components of the 'forest space' rather than as independent elements – here, I include all types of posts in the 'column'. It will be helpful to consider the columns of this house as divided into two groups: exterior columns and interior ones. The former can be regarded as direct adoption of natural trees, the latter as abstractions of trees. In the exterior, there are various types of columns and posts. Even under the entrance canopy

alone, Aalto designed a concrete column of an amorphous section and a white skin, and wooden supports: single, triple and quintet. The supports in the quintet group were lashed together and two lean forward. In addition, unbarked thin saplings stand in line under the east side of the canopy, forming a kind of screen, and they roll up half of the concrete column by densely standing around it.

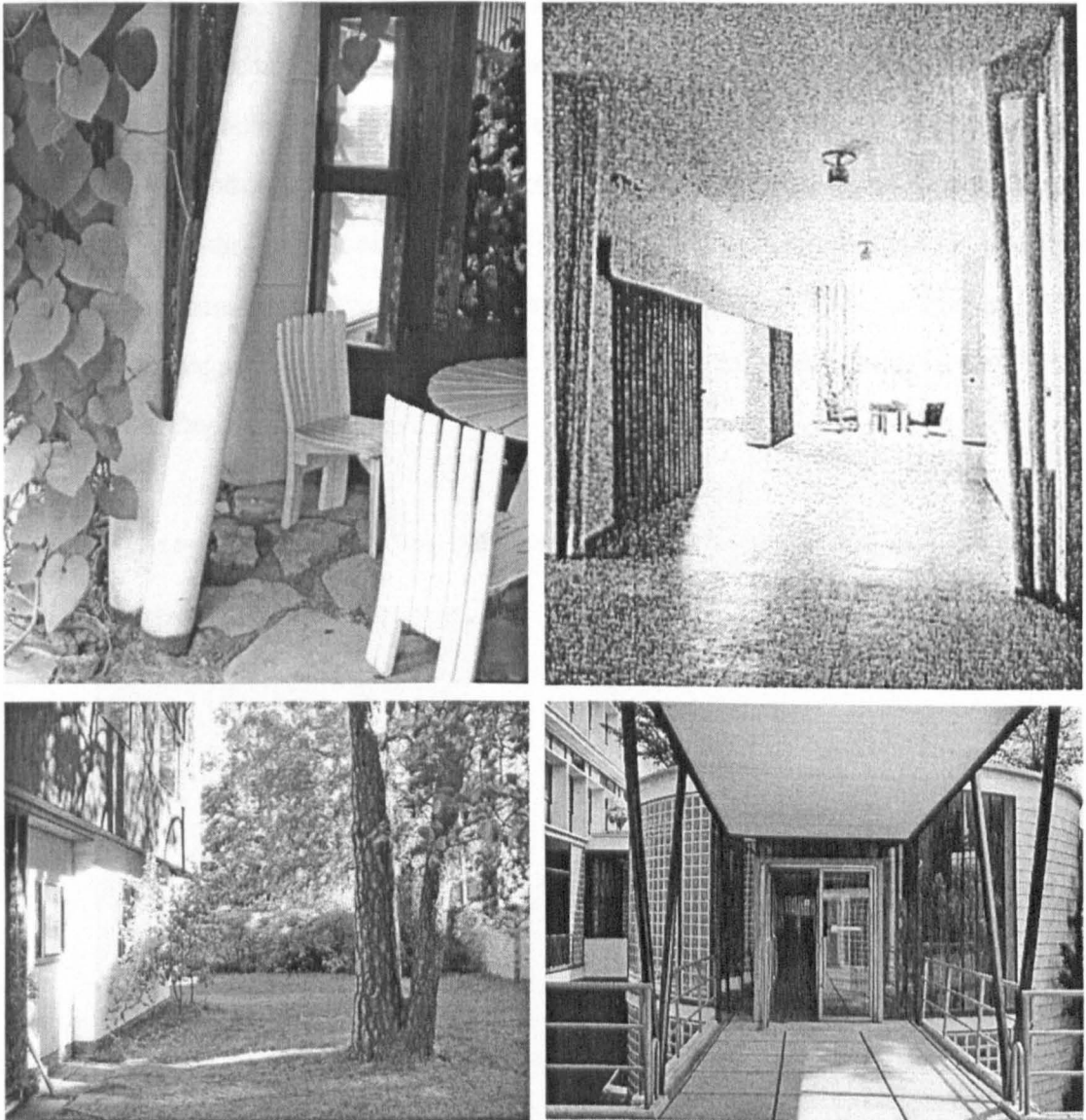
[Fig. 5-60] Columns under the entrance canopy



[Fig. 5-61] Various columns in the exterior: sauna hut (top left), terrace (top right) and pergola (bottom)



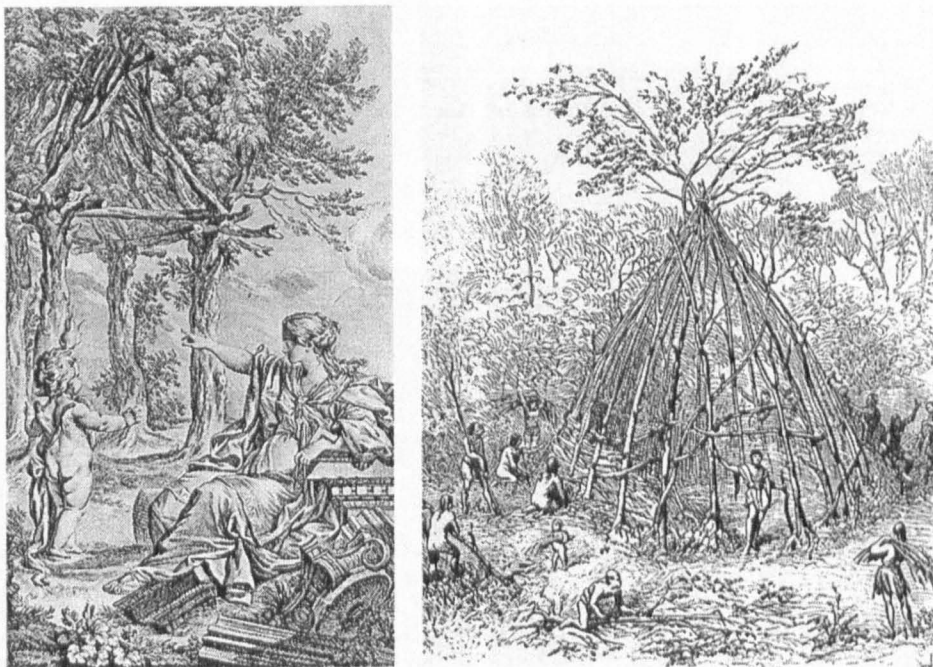
[Fig. 5-62] Splayed columns: under the Mairea studio (top left), Viipuri Library (top right), 'twin-stemmed' tree in Aalto's own house (bottom left) and the entrance of Cité de Refuge in Paris by Le Corbusier, 1929-33 (bottom right)



This kind of variety of column treatment could be noticed here and there. In the terrace behind the kitchen, we can see white rectangular concrete columns and circular steel columns, but we again encounter wooden supports coming to the sauna hut. Particularly, the rattan binding of wooden supports also appears under the sauna roof, and the leaning poles in the trellis beside the servant wing, as seen under the entrance canopy. The splaying method of supports is also

found in a steel column under the studio, which Aalto had already showed in the entrance hall of the Viipuri Library (1927-35). This column type alludes to a ‘twin-stemmed’ tree as Weston (1992) mentioned, a sort of tree that stands in Aalto’s own house, too.<sup>98</sup> In spite of some white steel and concrete columns, wooden poles dominate the exterior columns. The poles’ grain of wood and rattan binding heighten their rusticity with the disposition of the unbarked saplings. These natural wooden poles match untrimmed stone bases under them, and harmonise with the forest around the house. It reminds us of Finnish vernacular farmhouses and some African pavilions that Aalto might have seen in the Brussels World’s Fair of 1935. And the primitive allusion even suggests our first skill to build an abode like Laugier’s ‘primitive hut’ (1755) and Viollet-le-Duc’s ‘first building’.<sup>99</sup>

[Fig. 5-63] Laugier’s ‘primitive hut’ (left) and Viollet-le-Duc’s ‘first building’ (right)

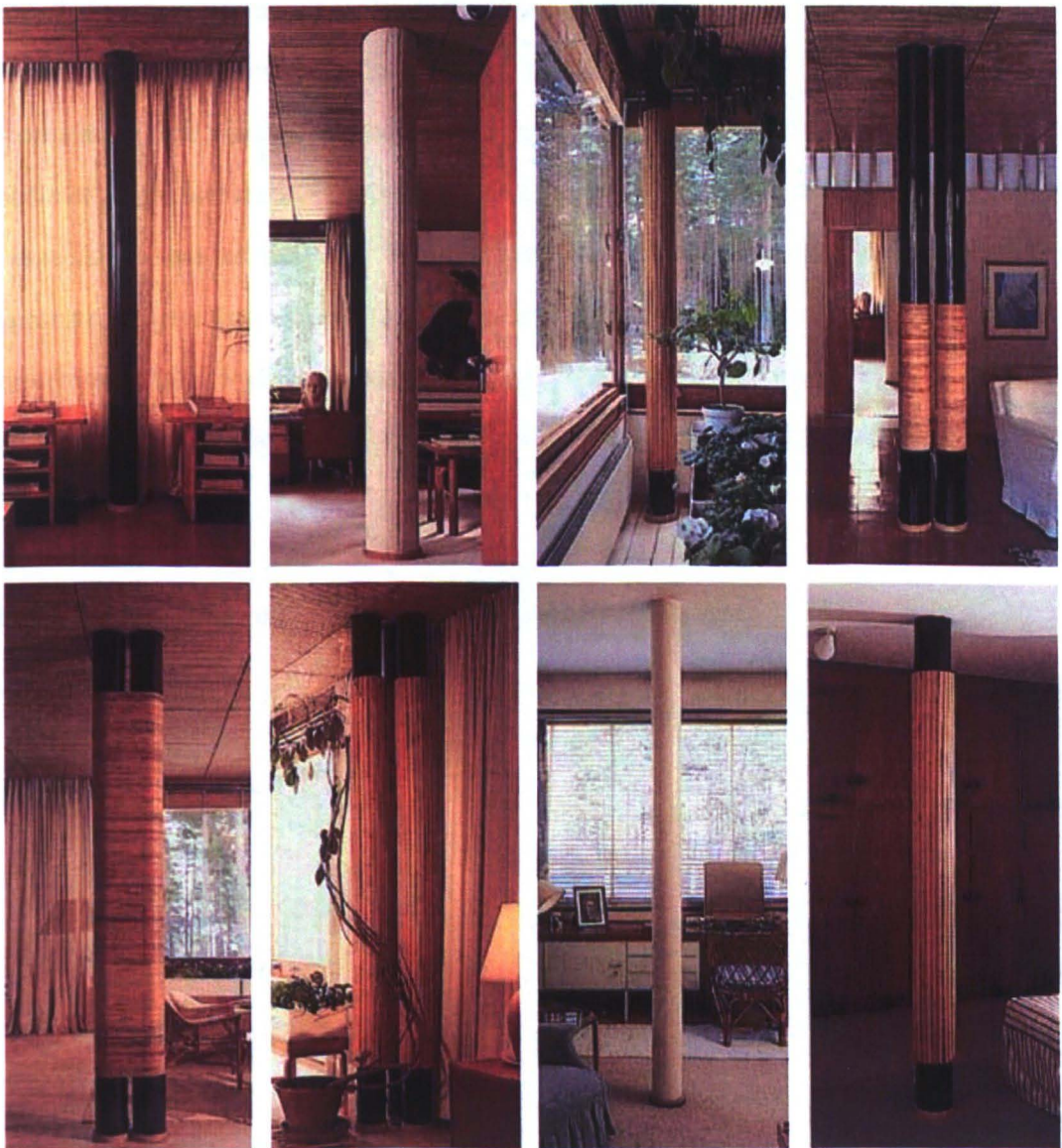


<sup>98</sup> A similar type of splayed support was also applied by Le Corbusier to the entrance of Cité de Refuge (1929-33) in Paris (Fig. 5-62).

<sup>99</sup> Through descriptions of their primitive huts with illustrations, Laugier (*An Essay on Architecture*, 1753/ 1755) tried to show the essential elements of architecture – the column, the entablature and the pediment – and Viollet-le-Duc (*The Habitations of Man in All Ages*, 1875) the first principles of architecture. See Laugier, M.-A. (1977, originally 1753 and 1755) *An Essay on Architecture*, Hennessey & Ingalls, LA (trans: W. and A. Herrmann), and Viollet-le-Duc, E. E. (1876, originally 1875) *The Habitations of Man in All Ages*, Sampson Low, M. S. & R., London (trans: B. Bucknall).

In the meantime, if we enter the house, we are astonished to come across the diversity of column styles. Some are steel columns, and some are concrete ones. Some are bounded by rattan, and some are clad with pine slats. Some are single columns, and some are doubled or tripled. Some are painted in black, and some in white.<sup>100</sup>

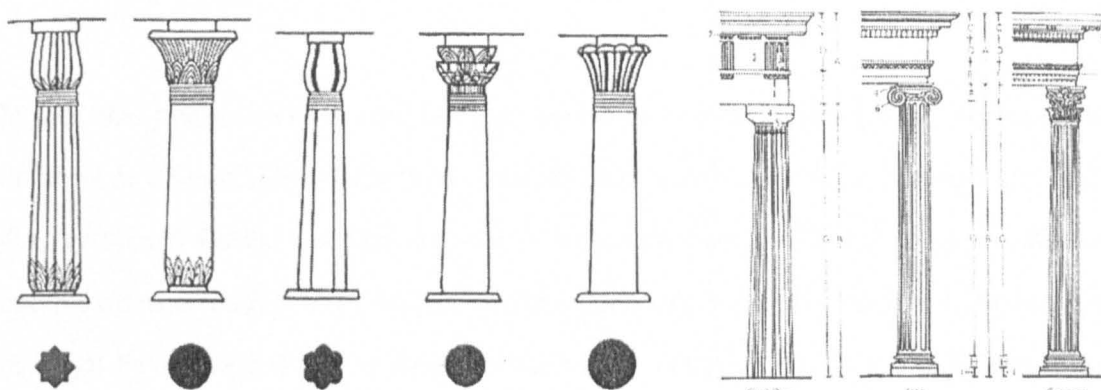
[Fig. 5-64] Various columns in the Villa Mairea, from Pallasmaa (1998)



<sup>100</sup> The black-painted steel column appeared first in Aalto's own house (1934-36) and the rattan-clad single column in Manager's residence of Sunila pulp mill (1936-37). But it is only in the Villa Mairea that all types of columns were attempted and experimented.

Although they are different in material, in grouping and in colour, all play their role as various kinds of trees in the indoor ‘forest’. As Weston (1992) described, the columns wrapped in rattan could be regarded as ‘mature pine trees on which the dark outer bark peels away to reveal the golden layer below’.<sup>101</sup> During the time of wandering about the forest, we can enjoy the fashion show of the columns. These abstractions of trees in columns were rooted in Aalto’s conviction that nature is the best model for architecture.<sup>102</sup> The columns with long pine slats allude not only to trees but also to the Classical Orders with the flutings and the tripartite division. Perhaps, however, the Greek Orders themselves might also be an imitation of trees, if considering their possible reference to the Egyptian columns that borrowed the forms from a bundle of papyri and reeds.<sup>103</sup> From this point of view, I maintain that Alvar Aalto’s columns – especially those of the Villa Mairea – are after all the embodiment of natural trees themselves despite their allusion to historical styles. This perspective partly shares the view of Porphyrrios (1982), ‘Stylistic Historicism’, but is critically different from it in the point that the latter focuses on historical style while the former refers to nature that has also been the source of the style.

[Fig. 5-65] Egyptian columns (left) and Greek columns (right)



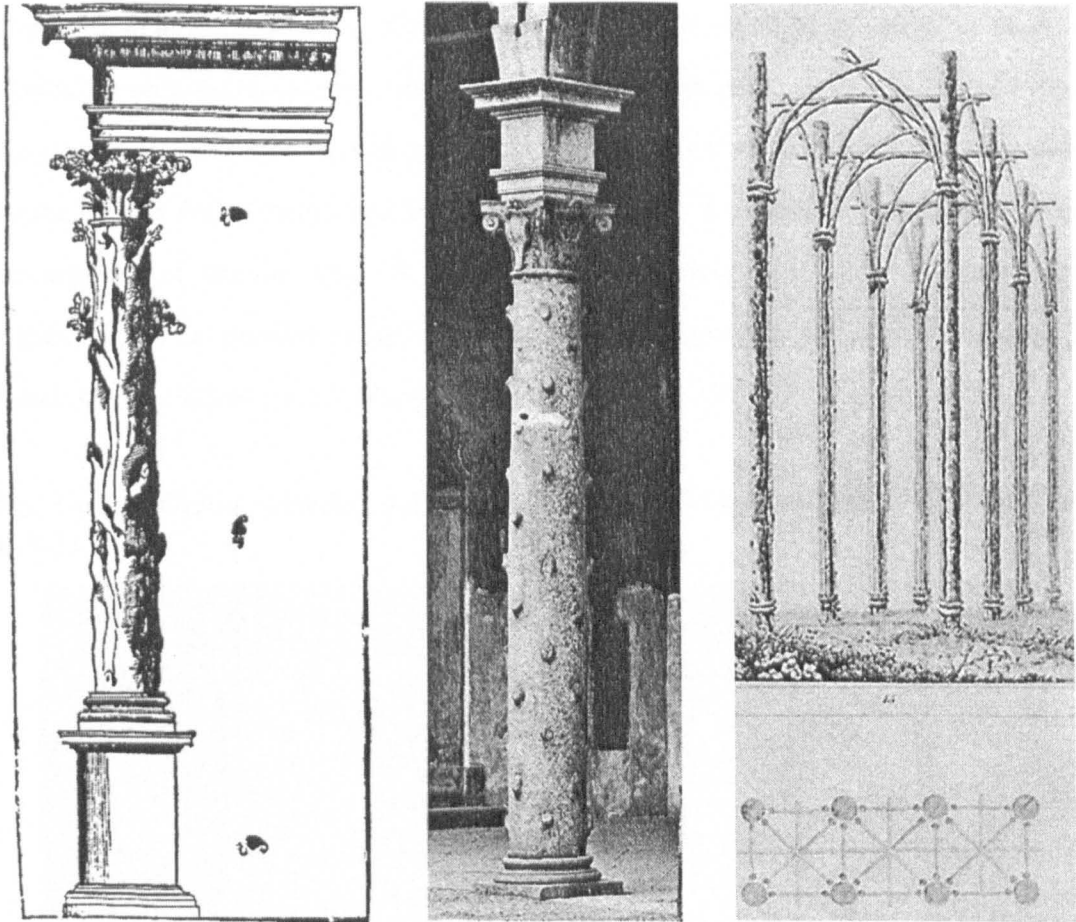
<sup>101</sup> Weston, R. (1992) *op. cit.*

<sup>102</sup> In an article published in Swedish book [Arkitektur och samhälle] (1932), he wrote: ‘Nature, not the machine, is the most important model for architecture.’ Cited in Schildt, G. (1986) *op. cit.* p. 216.

<sup>103</sup> Klassen, W. (1980) *History of Western Architecture*, San Carlos Publications, Cebu City, Philippines



[Fig. 5-66] Tree column of de L'Orme, 1648 (left), Bramante's column in St Ambrogio, Milan (middle) and origin of Gothic architecture by James Hall, 1813 (right)



In fact, the 'tree-column allusion' has been continually raised in architecture. For example, Philibert de L'Orme (1648) depicted a Classical Order as a tree trunk, and James Hall (1813) directly related Gothic columns and ribs to trees and their branches.<sup>104</sup> And the allusion became a design motif to some modern architects. John Nash designed palm tree-like columns in Royal Pavilion (1815-23) of Brighton, which was repeated later by Hans Hollein in his Austrian Travel Agency Main Office (1976-78) and several other designs of the 1970s, which

<sup>104</sup> Concerning it, see Rykwert, J. (1981) *On Adam's House in Paradise: The Idea of the Primitive Hut in Architectural History*, MIT Press, Cambridge MA and London.

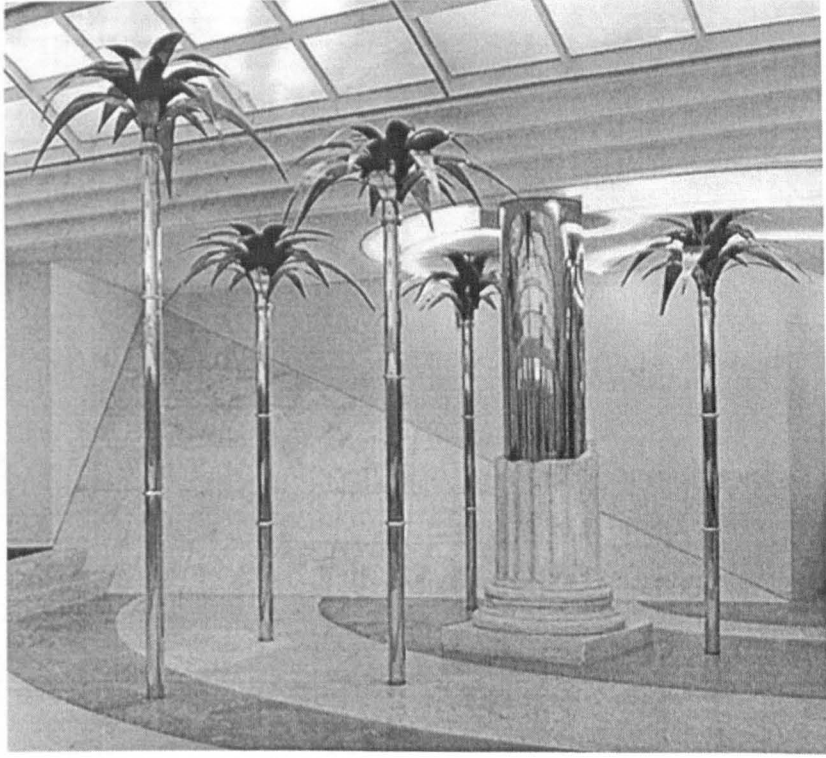
are not structural but just decorative.<sup>105</sup> In addition, Victor Horta's Tassel House (1893) in Brussels has a tree-like column beside the staircase, and Wright's Johnson Wax Company building (1938-39) in Wisconsin shows a similar allusion in its mushroom pillars. On the other hand, in the staircase poles of the Villa Mairea, we can see different slats from those on columns. In some poles, several – from one to four – slats are added around the circumference. This type of slat was used by Aalto for the first time in the Finnish Pavilion 'Le bois est en marche' for the Paris World's Fair in 1937, but the similar form had already existed in cast iron supports of Benyon, Gage & Marshall's Flax-spinning Mill (1796) in Shrewsbury, England: a rare but possible connection. Aalto adopted it again for posts supporting roofs in Maison Carré (1956-61) and in Munkkiniemi Youth Centre (1958-59).

[Fig. 5-67] Columns imitating palm trees in Royal Pavilion by John Nash, Brighton, 1815-23



<sup>105</sup> They are, for example, Austrian Travel City Office (1978-79) and Stage Set: Comedy of Seduction (1979) in Vienna. Nakamura, T. (ed.) (1985) *Hans Hollein, Architecture and Urbanism*, E8502, A+U Publishing Co., Tokyo

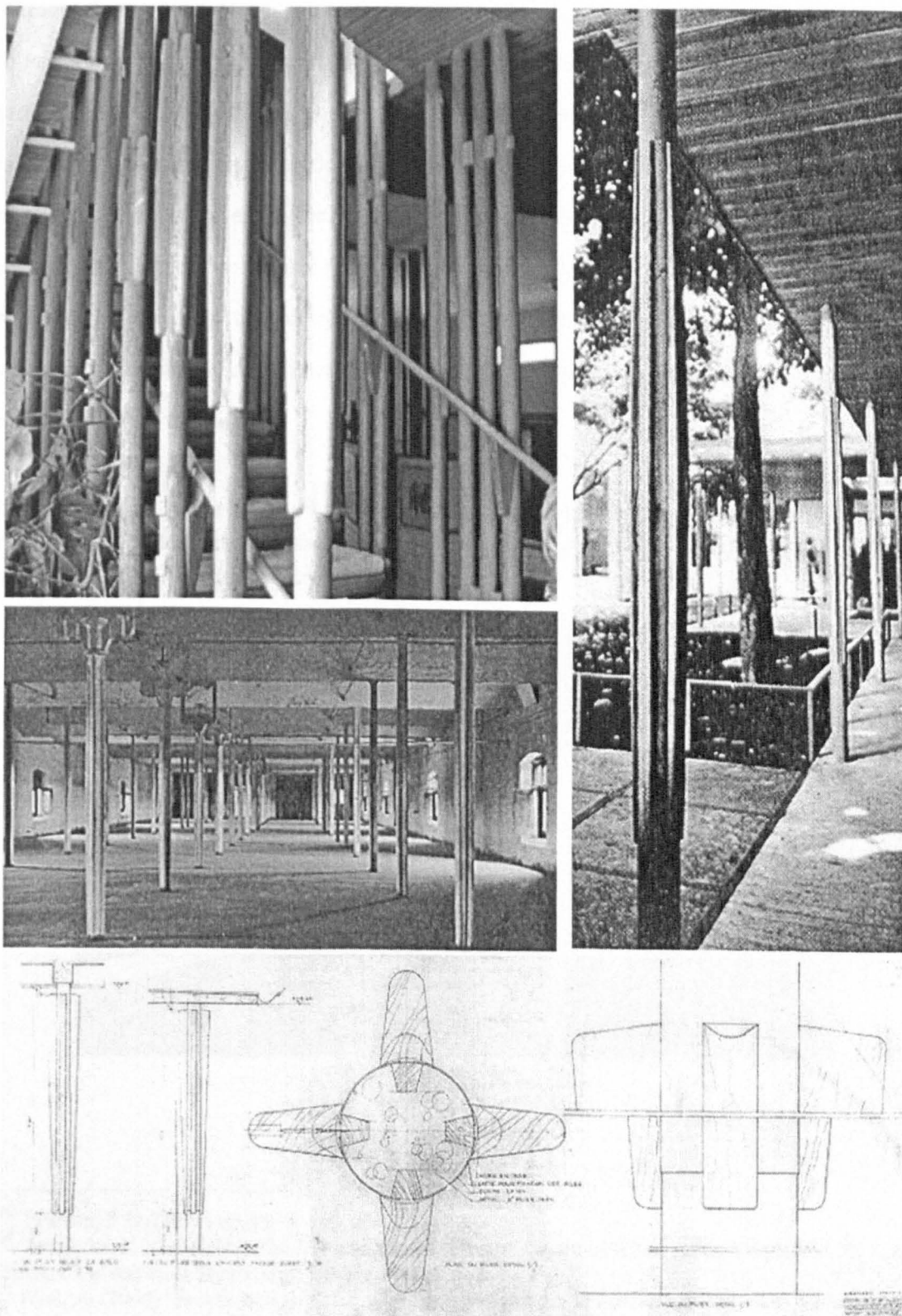
[Fig. 5-68] Decorative palm trees in Austrian Travel Agency Main Office in Vienna by Hans Hollein, 1976-78



[Fig. 5-69] Tassel House by Victor Horta in Brussels, 1893 (left) and Johnson Wax Company by Frank Lloyd Wright in Wisconsin, 1938-39 (right)

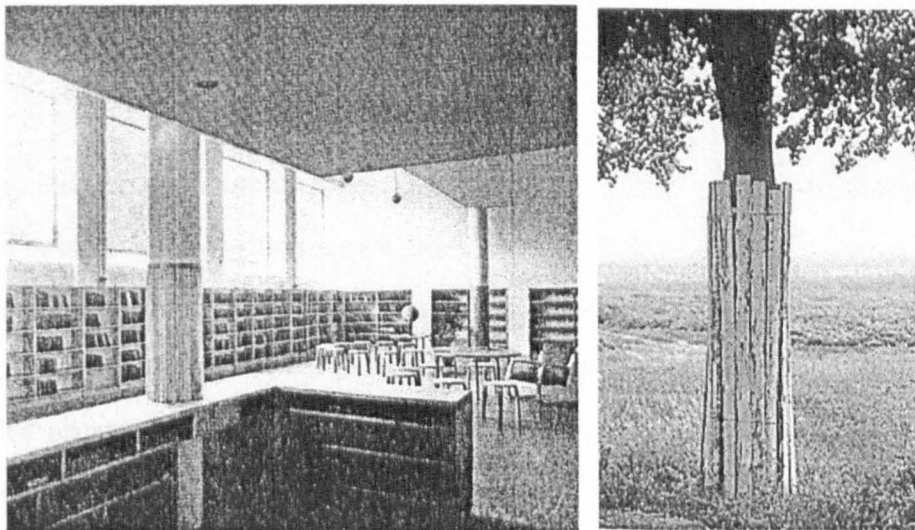


[Fig. 5-70] Vertical slats on columns: Villa Mairea staircase poles (left top), Finnish Pavilion in Paris World's Fair, 1937 (right), Flax-spinning Mill in Shrewsbury, 1796 (left middle) and drawings for posts of Maison Carré, 1956-61 (bottom)



Aalto's use of slats and claddings on columns can be traced back to the children's room of the Viipuri Library (1927-35), which had a purpose 'to keep fingerprints off the plaster' according to Pearson (1978),<sup>106</sup> and Jormakka (1999) presented an interesting source of the cladding – protective planks around a real tree trunk.<sup>107</sup> Recently, Alex Veal (2004) suggested a plausible interpretation on it – inspiration of Japanese 'Shinto tradition of tree-binding', which might have two purposes, he says: firstly, the practical protection of the trees from wild animals; secondly, the cultural symbolism of the trees as 'sacred objects'.<sup>108</sup> In any case, the claddings are related to the protection of columns with natural, cultural or historical metaphor. And its allusion to tactility, whether to encourage touch or to protect from the touch, enhances the textural effect of the material.

[Fig. 5-71] Possible origins of vertical claddings on columns: Viipuri Library children's room, 1927-35 (left), timber claddings around a tree trunk (right) and bamboo claddings around trees in Japanese Shinto (bottom)



<sup>106</sup> Pearson, P. D. (1978) *op. cit.* p. 150, 232.

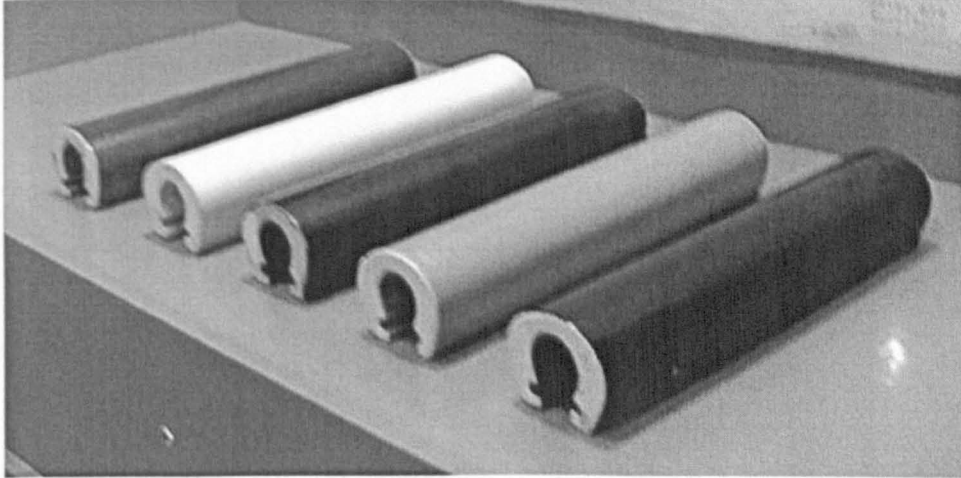
<sup>107</sup> Jormakka, K. et al (1999) *The Use and Abuse of Paper: Essays on Alvar Aalto*, DATUTAP 20, Tampere University of Technology. Tampere, p. 14.

<sup>108</sup> Veal, A. (2004) 'Reinterpreting Aalto: the Japanese Column'. In Sharr, A. (ed.) (2004) *made*, Issue 1, Welsh School of Architecture, Cardiff University, Cardiff, pp. 94-95.



Thanks to this, the sensuousness felt around the columns in the Villa Mairea becomes more prevalent through the whole living space. In addition, the craftwork in the variety of columns reinforces the feeling that is far beyond machine aesthetics in modern architecture. To his later designs, Aalto actively applied this experimentation of columns and transformed the types in diversified manner. Most of all, the invention of the cylinder-shape ceramic tile is very important for column claddings. The tile appeared in many buildings for covering walls or columns. And sometimes, the tile claddings were substituted by marble slats or planks. Take for example, the tile cladding columns in the Jyväskylä University (1950-56) transformed into the marble slat cladding columns in Seinäjoki Church (1952-60) and into the marble plank cladding ones in the Seinäjoki Town Hall (1961-65). In this way, Aalto's experiments on the columns and their cladding in the Villa Mairea extensively influenced later designs.

[Fig. 5-72] Cylinder-shape ceramic tile frequently used by Aalto



[Fig. 5-73] Different claddings on columns: tile cladding columns in Jyväskylä University, 1950-56 (left), marble slab cladding columns in Seinäjoki Church, 1952-60 (right top) and marble plank cladding columns in Seinäjoki Town Hall, 1961-65 (right bottom)

