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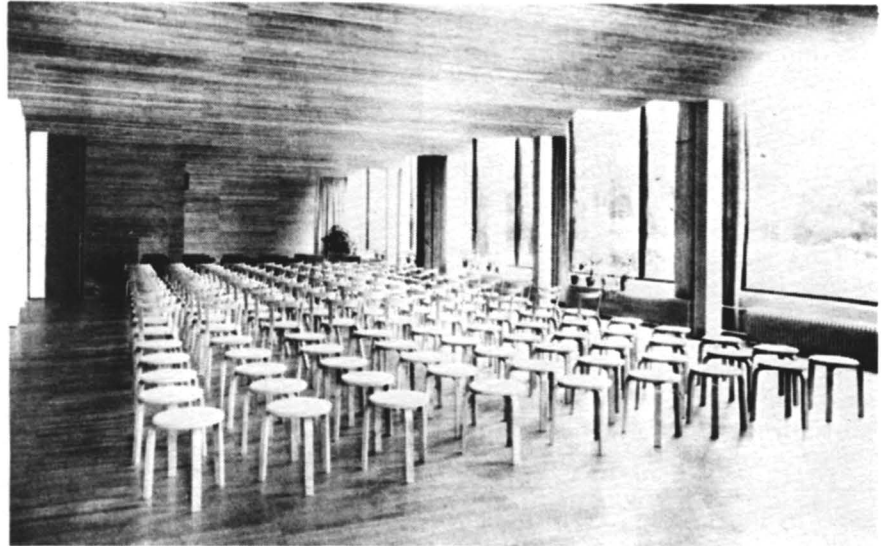
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Alvar Aalto: A Thematic Analysis

William C. Miller
Associate Professor

Alvar Aalto died on May 11, 1976, leaving behind a large and varied *oeuvre*. With the advent of his death we enter into a period of assessment to more fully understand his contribution to the architecture of the present century. Aalto, unlike many of his contemporaries, preferred to avoid the arena of architectural ideologies and polemics. Instead of becoming over-absorbed in theoretical issues he devoted his energy to building. For he believed that "the truth about buildings is in building, not talk." But it should not be assumed that his architecture lacks a theoretical base. On the contrary, his buildings provide the insight as to the set of architectural issues and concerns Aalto explored during his lifetime.

When penetrating into Aalto's architecture, one observes that specific architectural concerns and elements form a continuity throughout his work, irrespective of chronological development. It is from these reappearing concerns and elements the importance of "themes" emerges in Aalto's architecture: These concerns and elements form a thematic network through which an analysis of Aalto's architecture can be developed. Although more exist, the themes specifically dis-



The curved ceiling in the meeting room of the Viipuri Library (1930-35) was one of the first examples of the use of the undulating surface in Aalto's architecture (photo: Kari Fleig (ed.), *Alvar Aalto*. Zurich: Verlag fur Architecture Artemis, 1963, p. 55).

cussed here include: the undulating surface, light, mediation, and Aaltoesque space. It must be noted that although the themes presented are isolated for the sake of discussion, they must be viewed in relationship with each other, for they are constituent elements forming a larger architectural whole.

The undulating surface as a thematic element has appeared in Aalto's architecture as a ceiling, wall, building form, space, glass bowl and wood sculpture. Sigfried Giedion has noted that Aalto was not limited by orthogonal geometries, and seems to delight in exploring the architectonic possibilities of the undulating surface. Although Giedion felt Aalto's use of the theme is part of

a historical tradition from Borromini through the Wood's at Bath to Le Corbusier, nowhere in the current century has this theme been as pronounced as in the architecture of Alvar Aalto.¹

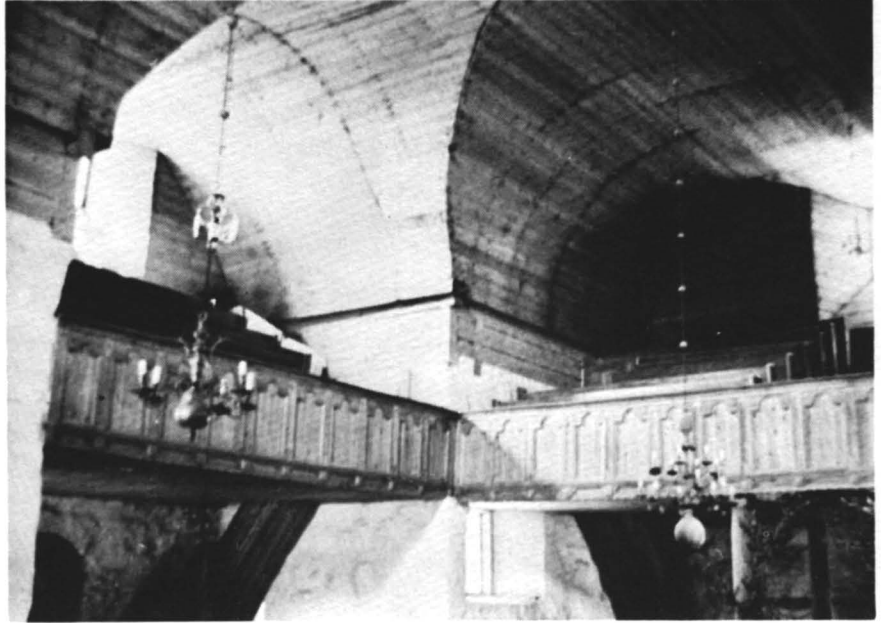
The undulating form first appeared, as a significant and dominant element, in the ceiling of the meeting room of the Viipuri Library. The ceiling's importance results from its functional rationale (acoustic) along with its poetic statement concerning the flowing quality of architectural space created. As with many elements Aalto creates, the undulating surface as ceiling is repeated in later works: the *Maison Carré* and the Central Finnish Museum being recent examples.

In the Forestry Pavilion for the

9 Agricultural Exhibition in Lapua the undulating surface became a sinuous log wall. Baker House Dormitory picked up this use of the theme by becoming a great serpentine wall overlooking the Charles River. The House of Culture in Helsinki is a series of curved surfaces enveloping the large hall and lobby within. The police headquarters in Jyväskylä with its undulating concrete wall, and the scalloped walls on the new Finlandia Hall are current examples of the undulating surface as wall. A variation of the undulating wall can be seen in the fan shaped form or plan occurring in many of Aalto's buildings. The housing projects at Bremen, Lucerne and Otaniemi make use of the fan-plan, as do the libraries at Seinäjoki, Rovaniemi and Mount Angel.

In the Finnish Pavilion for the 1938 New York World's Fair, the great flowing display wall attempts to totally model the interior space. Twenty years later, in the Vuoksenniska Church, the spatial modeling suggested in the Pavilion reaches its full development as the undulating space. Here the entire space is an undulating flowing ensemble, no longer merely a singular element as wall or ceiling, but a resolved rhythmic whole.

It is the diversity then, with which Aalto incorporated the theme of the undulating surface into his architectural frameworks that is unique. However, the theme is not limited to his architecture alone, but can also be seen in his glass bowls and in the



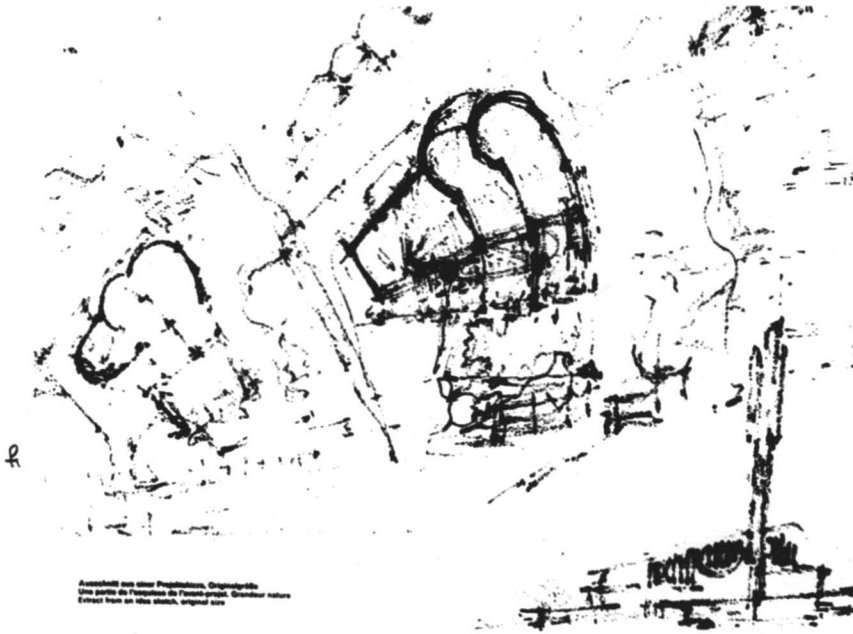
The interior of an older Finnish church located near Tampere with its curved wooden ceiling (photo: author).

wood experiments used in the development of his furniture. Four sources seem to account for this theme being so prevalent in Aalto's work: the Finnish landscape, Finnish vernacular architecture, the programmatic concerns of specific building tasks, and Aalto's own design process.

The concept of the Finnish landscape as a direct source and a metaphor for the undulating surface has strong support and acceptance from many writers, with Giedion being the most insistent.² On a seemingly metaphoric level one is hard pressed to deny the power of the Finnish landscape; the lakes, the forests, the logs on the rivers and

mill ponds all contain the abstract quality of the undulating surface. But for this quality to be translated so literally into architectural form by Aalto seems all too simple. Although the Finnish landscape may provide roots for the existence of the theme, it has for too long been the primary source for most writers.

Aalto has stated, "Human life consists, in equal degrees, of tradition and new creation. Tradition cannot be wholly cast off and regarded as used objects which have to be replaced by something new. In human life continuity is a vital necessity."³ The use of wood as a building material in Finnish architecture is particularly strong, and a precedent can be



A preliminary sketch for the Vuoksenniska Church (1956-58) shows Aalto's design drawing technique (from Fleig, *Alvar Aalto*, p. 228).

found for the undulating form in vernacular building. Many of the old churches throughout Finland contain beautiful curved wooden ceilings. Thus, the man-made forms of Finland may provide as strong a design incentive for Aalto as do the natural forms.

In terms of program, function and context, much has been said to explain the use of the undulating surface in Aalto's buildings. The ceilings of the Viipuri meeting room, the Vuoksenniska Church, and the plans for the Essen Opera House and other concert halls are generated by a concern for acoustics. The serpentine form of Baker House and the fan-plans of Bremen and Lucerne were used as a response

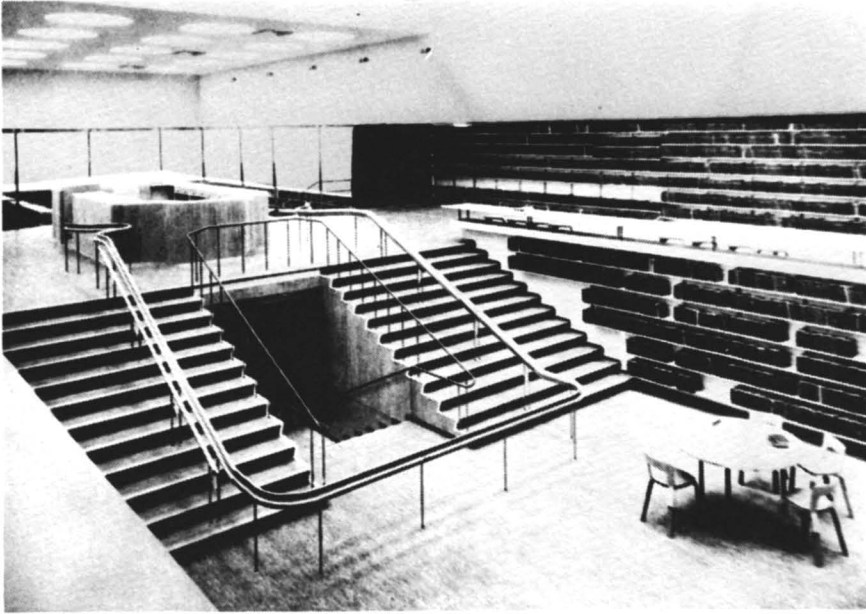
to context as well as program. The curved forms of Aalto's furniture results from the continuous manner of joining horizontal and vertical members, and can be viewed as a purely technical solution. But in all these cases we must speak about the "preference for form", for no matter what the technical solution, it was chosen to produce a desired form.⁴

The "preference for form" comes from Aalto himself, and is the last of the sources of the undulating surface. If we analyze Aalto's design sketches we see lyrical, sinuous, flowing lines. It is in these drawings we see Aalto's search and preference for form. Individuals who have worked for Aalto feel that the undulating

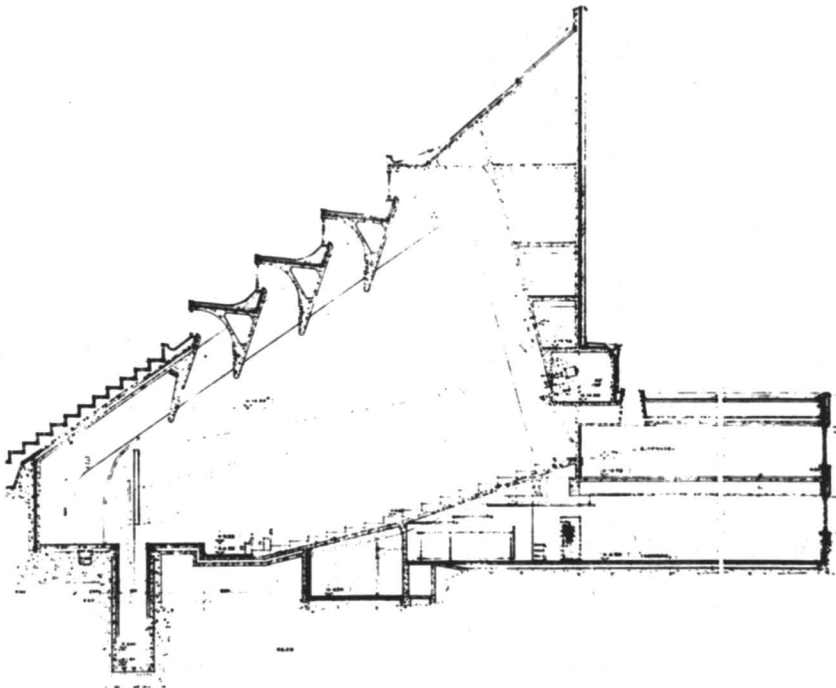
surface comes most strongly from his idiosyncratic manner of designing and drawing than from the other sources. But there is always a fine line between where the creative efforts of an artist begin and where the tradition and milieu he works in ends. It is to Aalto's credit his work is able to be read at these levels, for this ensures an architecture containing many levels of meaning and experience.

In reference to the ceiling of the meeting room of the Viipuri Library, Giedion stated, "The architect today appears nowhere so hesitant as in the region of the ceiling, above the reach of everyday functions. Here to a large extent, the architect has freedom of expression."⁵ This statement could have been made in reference to many other ceilings in Aalto's architecture which incorporate the use of skylights and clerestories for obtaining natural light. It must be remembered that the ceiling of conical skylights in the Viipuri Library reading area is as significant as the undulating ceiling of the meeting room. For in Aalto's architecture, the concern for ceiling is often coupled with the concern for light resulting in a dramatic synthesis of the two.

Aalto's manipulation of light is important on several levels. First, it is a response to the dynamic Finnish environment with its dark winters and light summers. Second, is in the resulting vocabulary of architectural forms Aalto has created to bring light into his spaces. Lastly, is the manner in



The reading room of the Viipuri Library contains both the themes of light and Aaltoesque space (photo: Fleig, *Alvar Aalto*, p. 53).



The section of the lecture hall in the main building in the Otaniemi complex (1955-64) explains how the clerestories also act as cross beams to the major structural elements (from Karl Fleig (ed.), *Alvar Aalto 1963-1970*. Zurich: Verlag für Architecture Artemis, 1971, p. 197).

which the forms mediate between inside and outside, both formally and environmentally. The manner with which light is handled and the variety of architectural responses that Aalto has developed seems unique in the context of contemporary architecture.

There are several variations within the theme of light; Aalto's use of conical skylights in the Viipuri Library reading area being the first. Six feet in depth, they provide the space with an even diffused light. The public space in the Rautatalo Building, the library in the Pensions Institute, the galleries in the Central Finnish Museum, the lounge at Baker House, and the Library in the Wolfsburg Cultural Center are but a few of the buildings in which the use of this skylight reappears. A further refinement was the addition of an artificial light source above the skylight, which provides light during the dark winter days in addition to melting the winter snow.

The second variation in the theme can be seen in the ceiling of the main auditorium in the Technical Institute at Otaniemi. Here the light is deflected toward the rostrum by curved panels while simultaneously shielding the light from the audience's view. The section indicates the resulting synthesis of clerestory, space, structure, and form. On a more modest scale, the council chamber in the Seinäjoki Town Hall, the meeting rooms in the Wolfsburg Cultural Center, and a recent church project for Bologna incorporate this form of

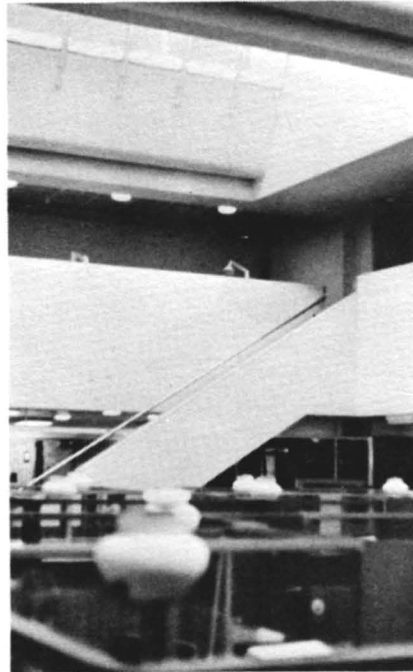
lighting.

The large clear double glazed skylights in the interviewing area of the Pensions Institute provides the third variant in the theme. Here, due to the clear glazing, changing patterns of light and shadow enhance and enliven the vitality of the space. An insulating air space is created with the double glazing, which is heated in the winter by the light fixtures housed within (these also provide supplemental lighting during the winter). The recently completed Stockmann's Bookstore uses a similar skylight as does the library space in the Scandinavian House in Reykjavik.

The last variation of the theme occurs with the light entering through the wall plane and is then diffused or directed by the ceiling plane itself. Here is a more intense manipulation and modeling of the ceiling, both for spatial and lighting reasons. The libraries at Seinäjoki and Rovaniemi, and the North Jutland Museum provide the best examples of this variation.

Aalto's concern for the quality and particular requirements in the lighting of his spaces has led to the design and production of his own lighting fixtures. The design of these fixtures reflects the same vitality of forms as does Aalto's architecture. In summation, it is the variety of forms that Aalto creates in dealing with the problems of light, and their synthesis into larger architectural wholes, that is the lesson here.

The notion of mediation was mentioned briefly in the section



The interviewing area of the Pensions Institute (1952-57) contains both the themes of light and Aaltoesque space (photo: author).

on light, and is important enough in Aalto's architecture to warrant discussion as a separate theme. The best definition of the concept mediation comes from Robert Venturi:

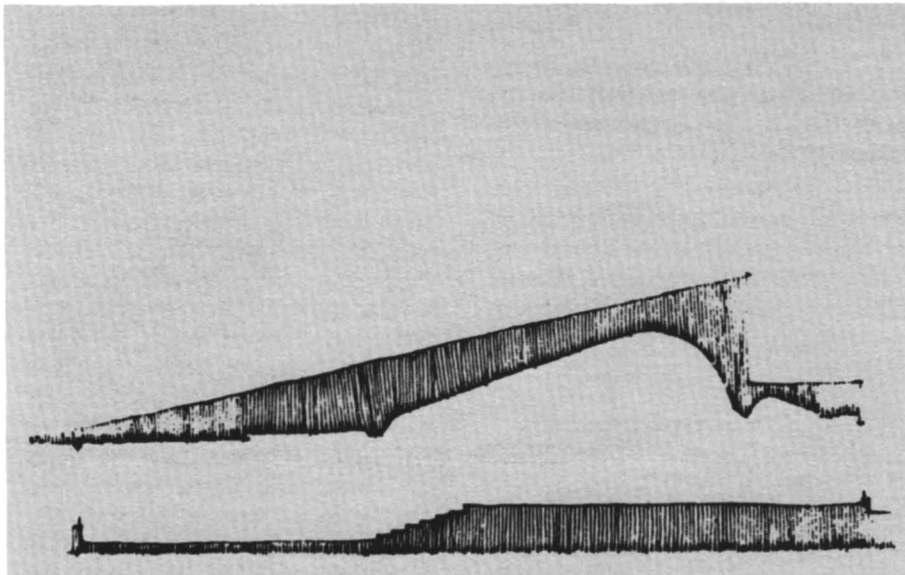
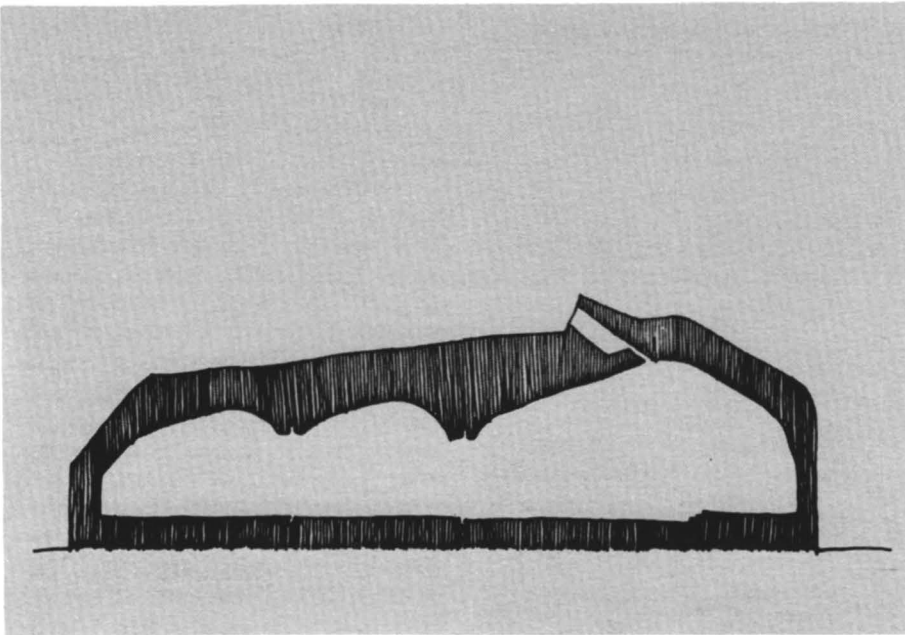
Designing from the outside in, as well as the inside out, creates necessary tensions which help make architecture. Since the inside is different from the outside, the wall — the point of change — becomes an architectural event. Architecture occurs at the meeting of interior and exterior forces of use and

space. Architecture as the wall between inside and outside becomes the spatial record of this resolution and its drama.⁶

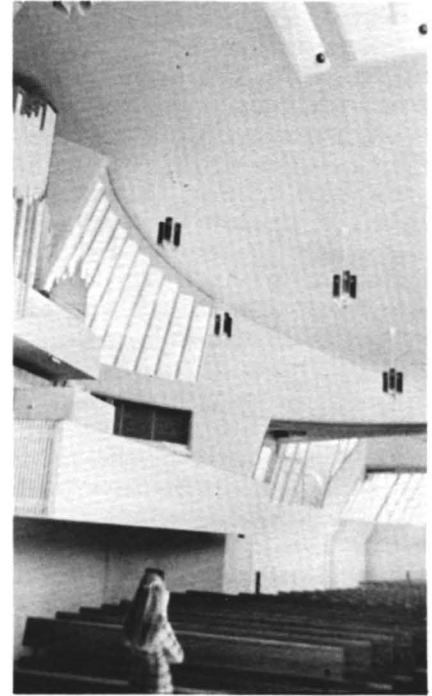
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Aalto's ability to reconcile the forces of inside and outside without their expression becoming suppressed, simplistic or forced, is a valuable lesson in today's architecture. It is this pluralistic approach to architectural form and to the solution of architectural problems that results in the expressive architectural language that Aalto has developed.

The Vuoksenniska Church provides the best example in discussing the notion of mediation. The interior, which evolved as the result of acoustics and the necessity for a three part division on the sanctuary space, becomes a flowing, sinuous, spatial ensemble. It is a space which makes little pretense to its anonymity to exterior relationships. The exterior form on the other hand, deals with the issue of context, such as climate and the relationship to the existing town plan. The shed-like form does little to disclose the spatial construction within. The reconciliation of these two entities occurs on both roof and wall, which takes on a thickness and quality reminiscent of Baroque architecture. The thick double-glazed windows on the east side of the building are a dramatic resolution of the two worlds. In addition to formally resolving the inside and outside, these windows modify the light and are acoustic and thermal barriers.



These diagrammatic sections of the Vuoksenniska Church and the Villa Carré (1956-58) explain the concept of mediation: where the internal and external membranes are acting independently by responding to separate needs.



In the interior of the Vuoksenniska Church, the undulating surface became the undulating space. The interior membrane (from the theme of mediation) creates a flowing spatial ensemble (photo: author).

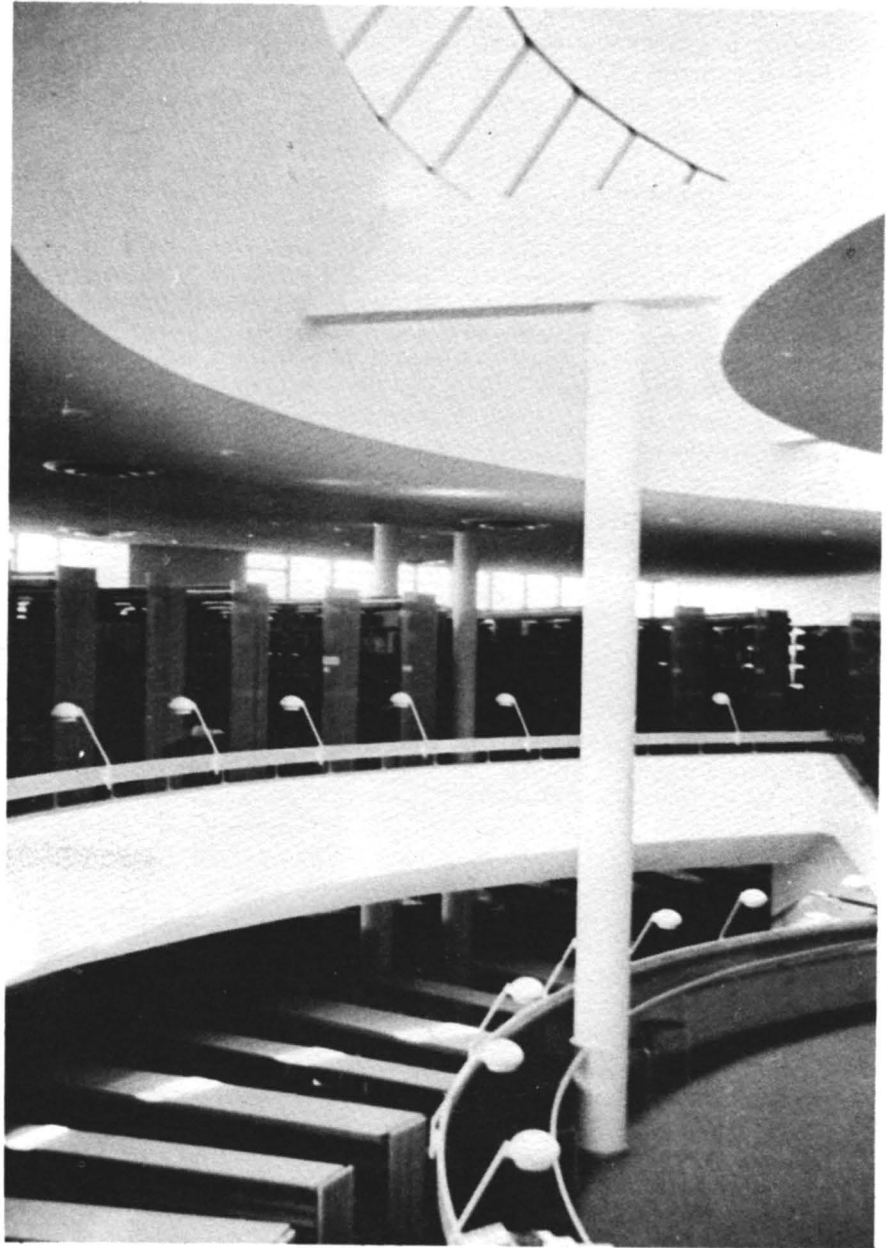
Aalto's Maison Carré is another example of his ability to reconcile interior needs and space with exterior form. The simple constant shed roof which recalls the gentle slope of the site in addition to responding to climate gives no indication of the undulating space within. The interior space is formed by a great curved wooden ceiling which has a two-fold function. It is used to unify the entire space by implying a continuity of flow; while at the same time through its articula-

tion, defines and encloses specific spaces within the overall construct. Here again a dynamic resolution between inside demands and external forces can be seen.

To analyze many of Aalto's plans and sections is to observe the concept of mediation at work. The seemingly casual introduction of an undulating or splayed space in an ostensibly regular building geometry — as seen in the Essen Opera House, the Seinäjoki Town Hall or the New Finlandia Hall — all attest to Aalto's ability to bring forth an architectural whole based on the acknowledgements of the difficulties inherent in an architectural program.

In analyzing Aalto's architecture, we observe that his spatial conceptions are deeply rooted in the image of human action. To achieve this image Aalto creates a juxtaposition between the enclosing spatial envelope and the architectonic elements found within. It was in the reading area of the Viipuri Library where the major elements comprising this theme achieved their first significant synthesis.

The first aspect of Aaltoesque space, as seen in Viipuri, is the preference for a defined, enclosed and limited volume of space. The space is a planar volume created by the walls, ceiling and balustrade. The space lacks articulation by any form of structural elements — columns, pilasters, beams, etc. Secondly these contained volumes are usually lighted from above, either



The interior space of the Mount Angel Benedictine College Library (1965-70) provides another expression to the themes of light and Aaltoesque space (photo: author).

15 through clerestories or skylights in the ceiling or upper wall region. We see this image of contained and limited space repeated in the Town Hall council chamber at Säynätsalo; in the central spaces of the Rautatalo Building, the Pensions Institute and Stockmann's Bookstore; and the reading rooms for the libraries at Seinäjoki, Rovaniemi and Mount Angel. It is against this static spatial construct that Aalto juxtaposes specific architectonic elements such as staircases, platforms and landings, railings and balustrades — all elements closely related to human action, movement and touch. Thus, these elements derive a special and dynamic meaning through their contrast with the static space.

In Viipuri the staircase becomes a dynamic element through its expression (both functional and symbolic) of movement and flow. Aalto presents the staircase within the space, creating an intensification of the image of the human action of ascent and descent. This presentation of the staircase within his spaces occurs throughout Aalto's work and can be seen in such examples as the foyer of the Seinäjoki Town Hall, the Wolfsburg Cultural Center, the main building and library at Otaniemi, and the new Finlandia Hall. In the recessed reading wells in the Seinäjoki, Rovaniemi and Mount Angel libraries, we see variations based upon the paradigm established in Viipuri.

Reinforcing the dynamic quality of the staircase is its con-

stituent element, the handrail. At Viipuri the handrail becomes more than an object to touch, grasp, pause by or lean against: it is the image of the actions occurring on the staircase made more concrete. It is a line, a gesture, suspended in space. It creates its own space by embracing you or deflecting you. It provides information as to where you are going and where you have been. In the staircase to the council chamber at Säynätsalo, in the foyer of the sports complex in Jyväskylä, in the many staircases in the various lobbies in the numerous buildings in the Otaniemi complex, and in a myriad of other Aalto spaces the handrail moves one through the intended spatial sequence.

The last element, the balustrade, defines the connection between the upper and lower levels of the reading area. Aalto constantly defines the relationship between the horizontal planes in his spaces by using a balustrade. As George Baird has noted, the image defined by the balustrade to the horizontal plane assumes a quality of either stage and promontory or shelter and haven.⁷ In the case of Viipuri, as with most of Aalto's libraries, the balustrade is thrust out into the space to create the image of stage or promontory. In other of Aalto's multi-storied spaces, such as the Rautatalo Building, Stockmann's Bookstore, and the Pensions Institute, the balustrade is held back to the edge of the space and creates the image of shelter or haven. The space of these balus-

trades are defined by the lowered ceiling or soffit above, so that one stands within a more contained space off of the main volume. One can participate with the main space, yet one is allowed to withdraw to the more secluded shelter behind the balustrade.

In assessing Aalto's work it must be remembered that he was an architect totally consumed in the act of building. Aalto's concerns were architectonic ones explored in the context of designing and building. This is vitally important, for as Sir John Summerson has observed of the modern architect, "...he has, for some reason or another, stepped out of his *rôle*, 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."⁸ He continues by warning, "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 will become dull, empty and unattractive..."⁹

There seems, then, to be two important lessons from Aalto's work. First, he concerned himself with the problems of light, staircases and railings, space, texture, the reconciliation of inside and outside, sinuosity and scale: architectural concerns from which he developed a dramatic and expressive architectural language. Aalto's buildings are never dull, on the contrary they are witty and full of life. The existence of this rich language comes from the

second lesson Aalto has to offer: he never forgot what the role and purpose of the architect was. For the truth about Aalto, the architect, is to be found in his buildings. For they convey the image that the architect believed in architecture as an affirmative act, and the role of the architect is to build as best he possibly can.



The staircase and handrail to the council chamber in the Saynatsalo Town Hall (1950-52) (photo: author).

Footnotes

1. Sigfried Giedion, *Space, Time and Architecture*. Cambridge, Mass.: Harvard University Press, 5th edition, 1967, see pages 637, 640 and 663-664.
2. Giedion, *op. cit.*, pp. 620 and 640.
3. Alvar Aalto, "The Architect's Conscience," in Karl Fleig (ed.), *Alvar Aalto 1963-1970*. New York: Praeger Publishers, 1971, p. 6.
4. Asko Salokorpi, *Modern Architecture in Finland*. New York: Praeger Publishers, 1970, p. 26.
5. Giedion, *op. cit.*, p. 632.
6. Robert Venturi, *Complexity and Contradiction in Architecture*. New York: Museum of Modern Art, 1966, pp. 88-89.
7. George Baird, in the introduction to *Alvar Aalto*. New York: Simon and Schuster, 1971, pages 14-17 provide a discussion of Baird's view of Aaltoesque space.
8. John Summerson, *Heavenly Mansions and Other Essays on Architecture*. New York: W. W. Norton & Company, Inc., 1963, p. 197.
9. Summerson, *op. cit.*, p. 199.

Illustrations: Captions and Sources

Fig. 1 The curved ceiling in the meeting room of the Viipuri Library (1930-35) was one of the first examples of the use of the undulating surface in Aalto's architecture (photo: Karl Fleig (ed.), *Alvar Aalto*. Zurich: Verlag Für Architecture Artemis, 1963, p. 55).

Fig. 2 The reading room of the Viipuri Library contains both the themes of light and Aaltoesque space (photo: Fleig, *Alvar Aalto*, p. 53).

Fig. 3 A preliminary sketch for the Vuoksenniska Church (1956-58) shows Aalto's design drawing technique (from Fleig, *Alvar Aalto*, p. 228).

Fig. 4 The section of the lecture hall in the main building in the Otaniemi

complex (1955-64) explains how the clerestories also act as cross beams to the major structural elements (from Karl Fleig (ed.), *Alvar Aalto 1963-1970*. Zurich: Verlag Für Architecture Artemis, 1971, p. 197).

Fig. 5 In the interior of the Vuoksenniska Church, the undulating surface became the undulating space. The interior membrane (from the theme of mediation) creates a flowing spatial ensemble (photo: author).

Fig. 6 The interviewing area of the Pensions Institute (1952-57) contains both the themes of light and Aaltoesque space (photo: author).


Fig. 7 The interior space of the Mount Angel Benedictine College Library (1965-70) provides another expression to the themes of light and Aaltoesque space (photo: author).

Fig. 8 The staircase and handrail to the council chamber in the Säynätsalo Town Hall (1950-52) (photo: author).

Fig. 9 These diagrammatic sections of the Vuoksenniska Church and the Villa Carre (1956-58) explain the concept of mediation: where the internal and external membranes are acting independently by responding to separate needs.

Fig. 10 The interior of an older Finnish church located near Tampere with its curved wooden ceiling (photo: author).

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