



CASE STUDIES

References

Peter Blundell Jones – 'Holy Vessel', in *Architects' Journal*, 1 July 1992, p.25.

'Dreams in Light', in *Architectural Review*, April 1992, p.26.

CASE STUDY ONE - FITZWILLIAM COLLEGE CHAPEL

The small chapel at Fitzwilliam College in Cambridge, UK, was designed by the British practice MacCormac Jamieson Prichard, and built in 1991. It is a clear and understandable building which illustrates a number of the themes discussed in this book.

Identification of place

The chapel has been attached to the end of a wing of the existing college accommodation (designed by Denys Lasdun in the 1960s). It faces a large tree (which was already there) almost in the centre of the rectangular college grounds. The circle which outlines the plan of the chapel identifies a place which enjoys a particular relationship with this tree.

The fundamental purpose of the building was to establish this place as a place of worship. It has done this 'first' by cupping the place between two brick walls curved around like protecting hands; these form a cylinder which contains the chapel.

Basic and combined elements

The principal architectural elements of the chapel are *wall, platform, aedicule, focus, cell, column* and *glass wall*.

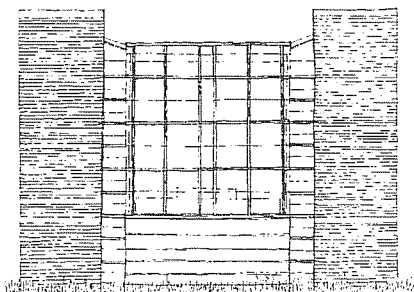
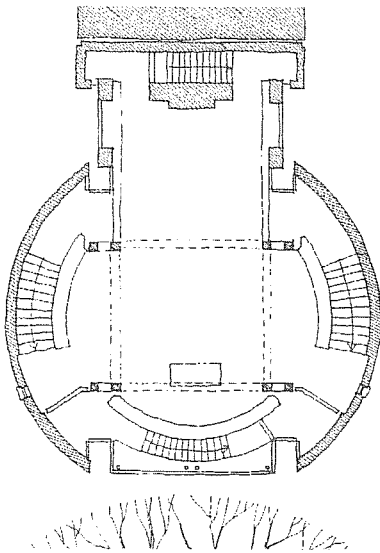
The platform is the main floor of the chapel (see the Section, on the next page). Being raised it makes the chapel interior feel apart but, because of the glass wall that faces the tree, not separate from the land outside.

On this platform is the aedicule – apparently composed of four pairs of columns arranged at the corners of a square. The columns in each pair are structurally separate: the inner four columns support a central square flat roof; the outer four support a secondary pitched roof which spans between the outer walls and the roof of the aedicule.

The focus of the aedicule is the altar, a simple table covered with a red cloth.

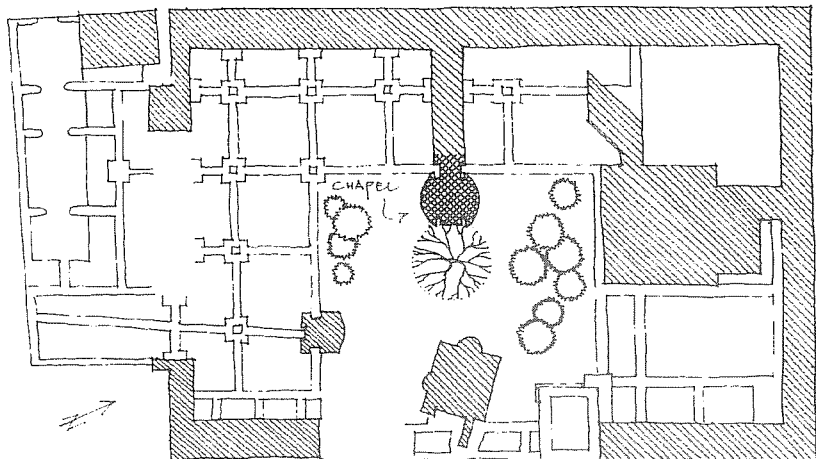
Below the platform there is the cell – a crypt-like meeting room totally secluded from the outside world. Its

Plan of main floor



Elevation

Site plan



floor level is slightly lower than that outside. Within this meeting room, and enhancing its crypt-like quality, the structural supports of its ceiling, which align with the columns of the aedicule in the chapel above, appear as heavy masonry piers – battered as if to suggest they need to spread a heavy load – providing a strong and visible foundation.

The platform, the aedicule above with its altar, and the cell beneath, are all enclosed and protected by the two curved side walls, arcs of the circular plan. The open end, between these two walls, is the large clear glass wall through which the tree can be seen.

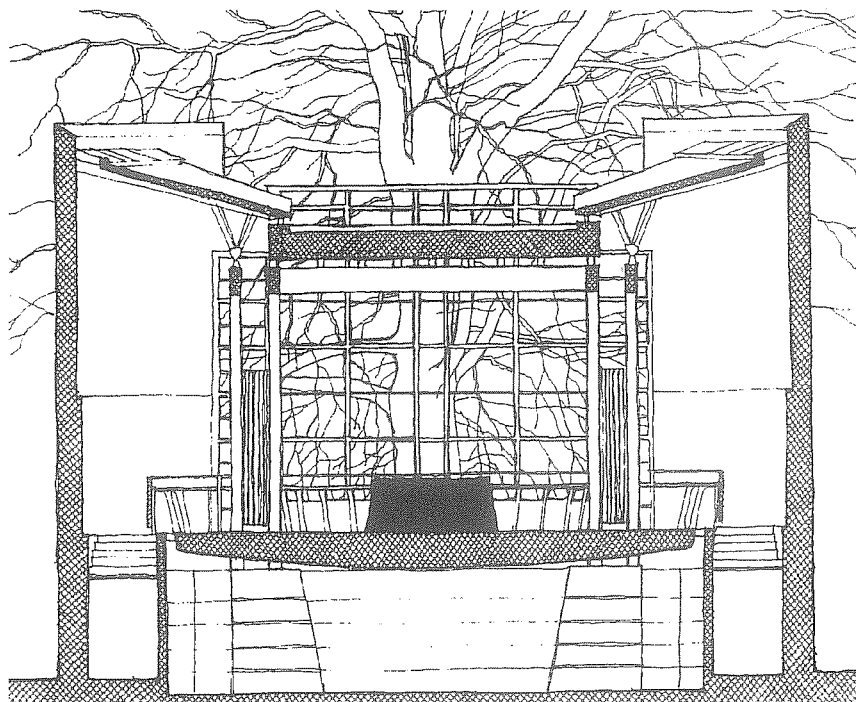
Though there are many subtleties, the building makes simple and direct use of these elements. Each seems to fulfil its timeless purpose: the *walls* enclose and protect; the *platform* raises a special place above ground level; the *aedicule* frames a specific place – that of the altar which is the *focus* and heart of the building; the *cell* separates a place from everywhere else; the *columns* act structurally bearing the loads of floor and roof, but also help to define space; and the *glass wall* allows in light and is certainly for looking through.

Modifying elements

• light

In the morning sunlight streams into the chapel from the east through the branches of the tree and the large window.

In both the chapel and the ‘crypt’ there are narrow perimeter rooflights



that allow light to wash down the walls: softly on overcast days, and with a pattern of sharp shadows when the sun shines. With the changing light and slowly moving sun patterns the interior is never quite the same twice. At night the lights inside turn the chapel into a lantern or lighthouse.

• colour

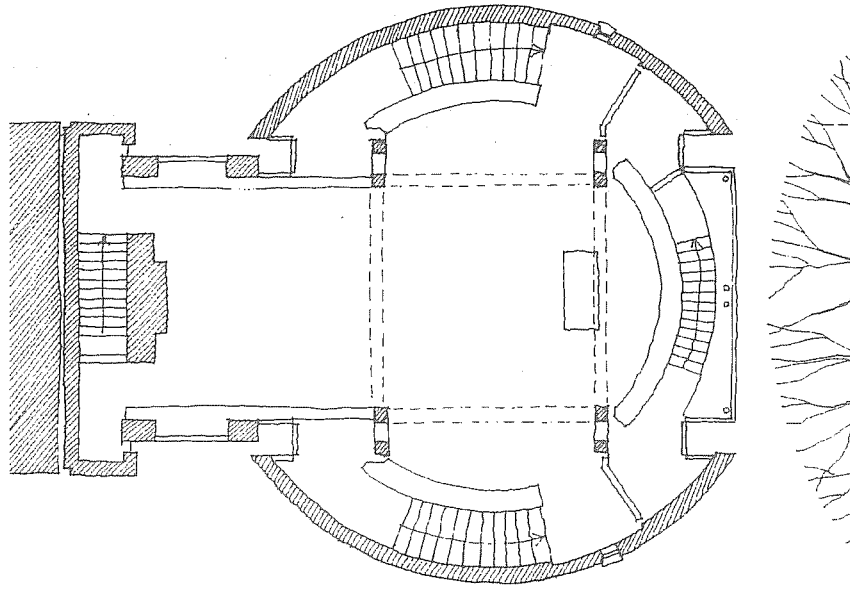
By contrast with the harsh purple brick on the outside, the inside colours are soft and warm. This image of a warm interior is further reinforced at night when the inside light and colour contrasts with the darkness. The altar cloth has the warmest colour.

Elements doing more than one thing

The platform is a floor and a roof; and the glass wall allows both a view out and makes a lantern at night.

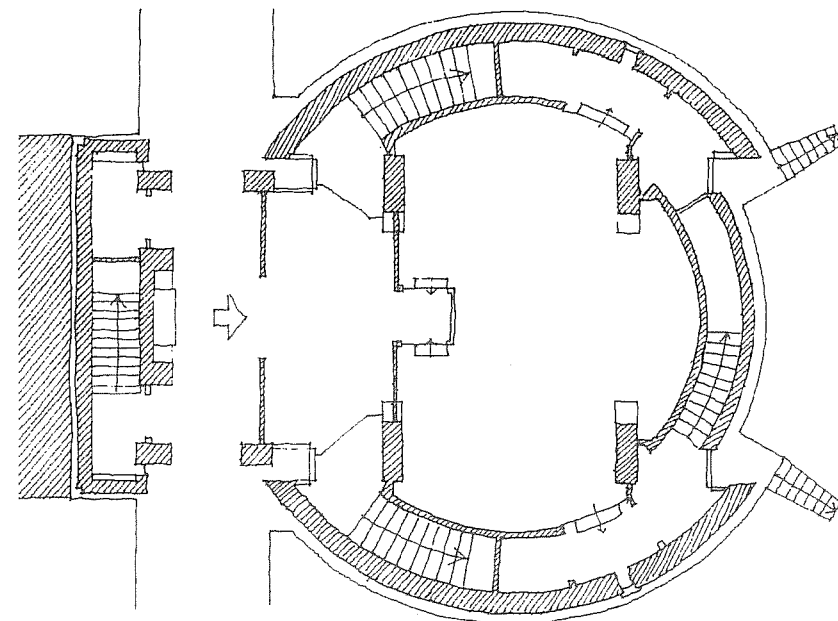
The aedicule defines the main chapel space and the place of the altar, but it also helps to create four subsidi-

This section is drawn facing the tree. You can see the platform (which has a curved under surface) supporting the aedicule in the chapel above, and supported by the piers in the meeting room below. The altar stands on the platform in front of the large east-facing glass wall. You can also see the gaps at the perimeter of the roof and around the edge of the platform floor, which allow light to wash down the walls of the chapel and the meeting room.



Plan at chapel level, showing the square aedicule and the four subsidiary spaces it helps to make: the place of the two stairs from the entrance; the place of the priest's stair rising under the glass wall from the meeting room beneath; and the place of the organ at the rear of the chapel.

Plan at 'crypt' level, showing the entrance, and the four piers which support the floor of the chapel.



of columns accommodate the vertical radiators; the organ is housed in a wall which also contributes to the enclosure of the chapel, and defines the place of another stair.

Using things that are there

The chapel uses the end of the existing wing as an anchor; it uses the tree as a companion. But it also uses, and exploits, the place between the two which previously lay dormant.

Primitive place types

The chapel identifies a place of an altar together with its associated place for worshippers. There are many precedents for such 'primitive' places being bounded by a circle or aedicule; here it is both.

Architecture as making frames

• 'outside-in' framing

The chapel sits in the frame made by the other college buildings and their gardens. The circle of the building itself is a frame for worship. Within, the seating on the circumference is a frame within that frame; the aedicule is a frame within a frame within a frame; the altar is a frame within a frame within a frame... like 'Russian Dolls'.

• 'inside-out' framing

The glass wall frames a particular view of the tree, as an abstract picture, but also making a link between the internal space and nature outside, (rather like the *Student Chapel* at Otaniemi, where the cross is an external focus).

Temples and cottages

Architecturally as well as in purpose the chapel is a 'temple'. The aedicule stands on a platform above the natural ground level. The form of the chapel is geometrically disciplined; its materials are carefully finished. And although it is attached to an existing building and relates to the tree, it does not submit to either. The building's one submissive characteristic is perhaps its use of bricks which match those of the older building.

Circles of presence

The chapel creates its own circle of presence, which houses the altar with its circle of presence, and which responds to, and exists within, the circle of presence of the tree. Through these overlapping circles one may carry one's own.

Six-directions-plus-centre

Inside the chapel the six directions are defined by the six sides of the cubic geometry of the aedicule.

The *lateral* directions are blocked by the side walls. The direction to the *rear* loses itself in the area of the organ; the *down* direction is the floor and the 'crypt' beneath (see the Villa Rotonda by Palladio), the presence of which one is reminded of by the stairwells.

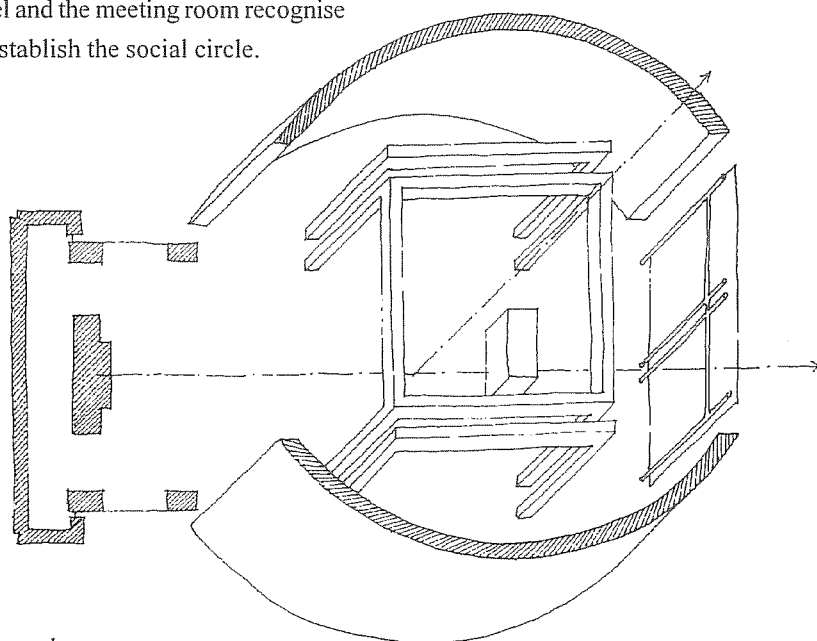
The two directions which hold greatest importance in this chapel, as in most traditional religious buildings, are the *up* and the *forward*: the forward passes through the altar and the glass wall to the tree and the rising sun be-

yond; the vertical – the *axis mundi* – though not strongly emphasised by the architecture of the building (there is no spire, or vault, or cupola), is simply implied by the coincidental axes of the cylinder of the outer walls and the cube of the aedicule; this centre, together with the four horizontal directions, is recognised, but undemonstratively indicated, by a faint cross of pairs of parallel lines inscribed across the ceiling of the aedicule.

Social geometry

Like the *Woodland Chapel* by Asplund in Stockholm (*Case Study Five*) the internal shapes of both the chapel and the meeting room recognise and establish the social circle.

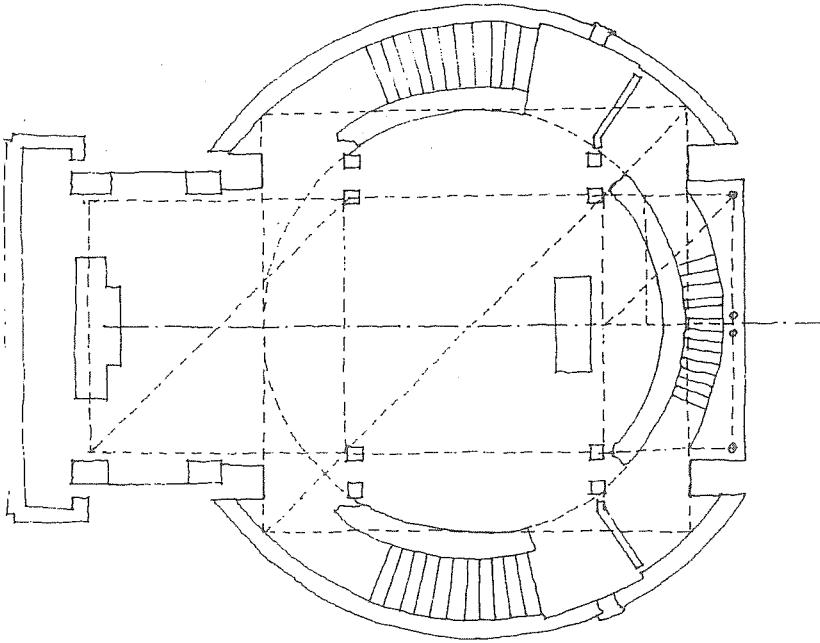
This is a simplified three-dimensional drawing of the chapel space; it does not show the staircases up from below. It does show the position of the aedicule between the two curved side walls, and the two main directions: the up and the forward.



Space and structure

The principle structural elements of the chapel – the frame of the aedicule and the flank walls – are also the principle space defining elements.

In the 'crypt' the space is defined by the four structural piers. The space is also defined by the curved walls of



The form of the chapel seems to hang on an armature of geometric shapes and volumes. In the plan you can see a pattern of squares and circles.

The geometric arrangement of the section is not so simple, but you can still extract lines which appear to regulate the shapes and positions of elements.

the three sets of stairs, which are not roof supporting.

Ideal geometry

Although it is sometimes difficult to establish exactly which ideal geometric shapes and volumes an architect used in determining the form and disposition of a building, it is clear that the Fitzwilliam Chapel is organised on

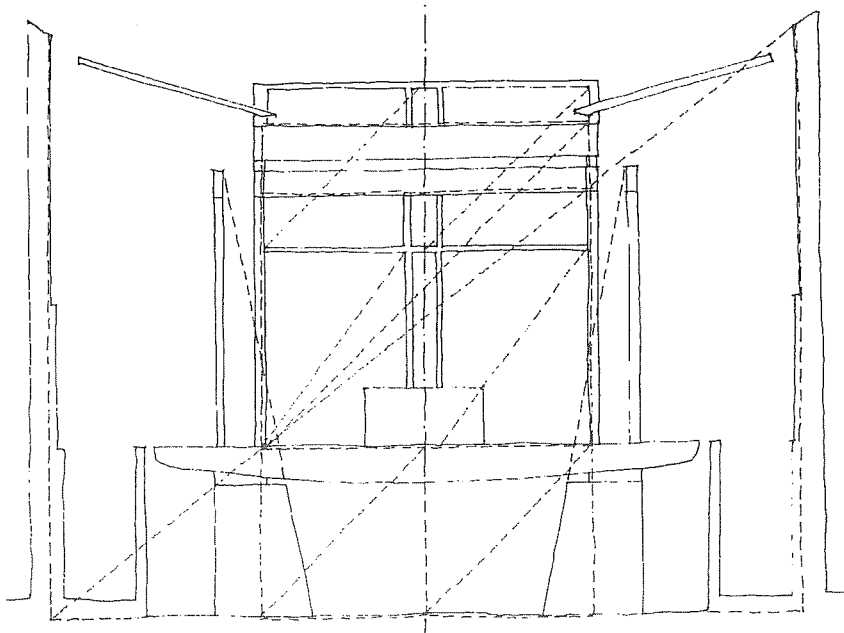
a conceptual armature of circles and squares, cylinders and cubes.

The aedicule is a central cube, which is extended by half a cube towards the tree, and a full cube to the rear, making the organ place. On plan, the central square of the aedicule (which laterally is measured to the centre-lines of the columns, and longitudinally to their outer faces) sits within another square, one-third larger, which determines the radius of the curved walls; and a circle subscribed within it seems to determine the positions of the four outer columns of the aedicule and the radius of the circumferential seating and rail behind the altar.

(As in the Villa Rotonda), the geometry of the section is not as clear and simple as that of the plan. The central cube of the aedicule is there, but it is not a purely spatial cube – its height is measured from the platform floor to the top of the upstands around the flat roof.

The square of the aedicule in section is extended downwards as half a square to determine the height of the 'crypt', though again this includes the depth of its roof – the platform.

There appear to be some other alignments: the angles of the batters on the piers in the crypt seem to align with the tops of the outer columns in the chapel above; and the angle of the slope of the capstones on the side walls seems to derive from a long diagonal line through the section, from the notional bottom corner, through the base of the inner aedicule columns on one side, and through the top of the aedicule columns on the other.



Transition, hierarchy, heart

For such a small building the transition from outside to inside is elaborate. This accords with the idea that holy spaces should be reached through 'layers of access' (as suggested by Christopher Alexander in 'Pattern 66' of *A Pattern Language*).

The route follows an *architectural promenade* through a hierarchical arrangement of spaces, and culminates in the chapel itself, where there is a view of the outside from which one has come; (comparable with the 'window' on the upper roof terrace which is the terminus of the architectural promenade through the Villa Savoye).

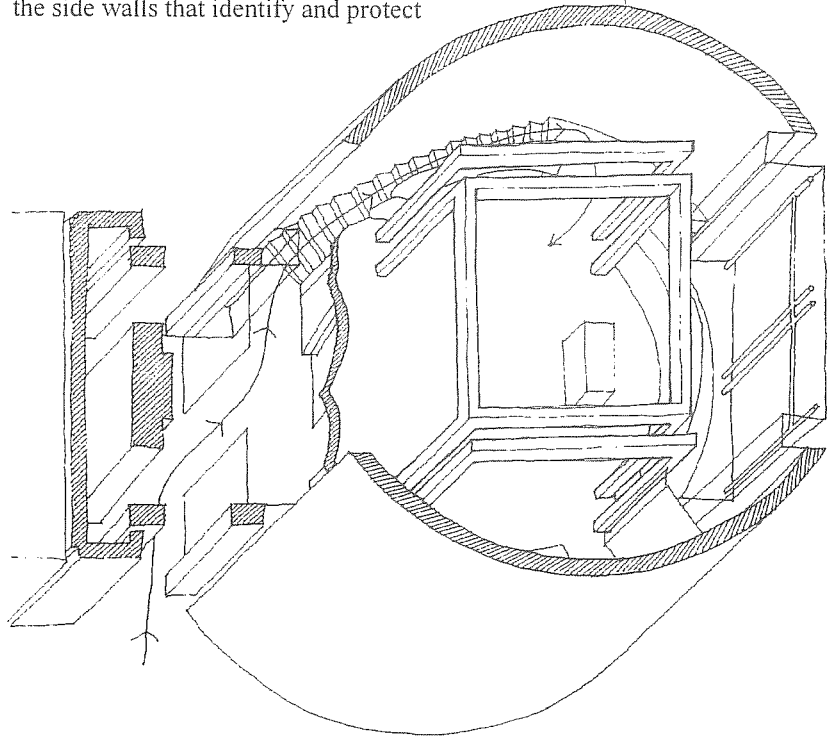
To get into the chapel one first goes under the link between it and the existing wing of college accommodation. Thus the way in is provided with an integral protective 'porch'. (This was intended to have been part of a covered walkway, following the line of the innermost pathway on the site plan, creating an inner courtyard garden for the college. The walkway has not been built.) Through the entrance there is a vestibule with the door to the meeting room opposite. One rises into the chapel up either of the two stairways which run just inside the curved walls. In this way one emerges into the chapel, not on its main axis, but at either side.

Parallel walls

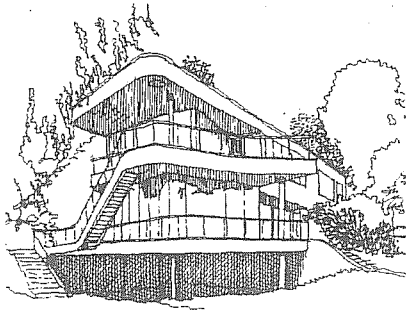
Notwithstanding the circular plan and the related arcs of the side walls,

the chapel has some of the characteristics of the architecture of parallel walls.

A comparison has already been made with the Student Chapel by Siren and Siren at Otaniemi. In both it is the side walls that identify and protect



the place of the chapel; in both, these act like blinkers blocking the lateral directions and framing a particular view; in both, one's passage through and into the chapel transforms one's view of the outside world. But whereas in the Otaniemi chapel (where the chapel is not lifted on a platform) the drift of movement runs longitudinally along one of the walls, here the dynamic is an upward spiral – or rather a pair of spirals running in counter directions, up each of the staircases onto the raised platform.



Reference

Peter Blundell Jones – *Hans Scharoun*, 1995, pp.74-81.

CASE STUDY TWO - THE SCHMINKE HOUSE

The Schminke House was designed by Hans Scharoun, and built for the German industrialist Fritz Schminke in 1933. Schminke owned a noodle factory in Löbau, close to the border with Czechoslovakia. The house was built on land to the north of his factory.

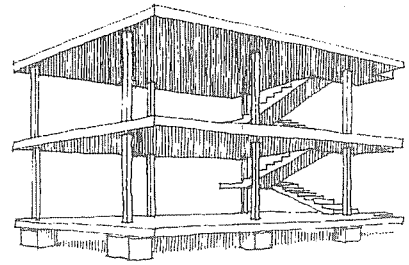
Conditions

The site available for the house was generous in size. The adjacent factory lay to the south, and the best views were to the north and northeast. (This of course set up a conflict between sun and views.) The land had a slope, though not a dramatic one, from the southwest down to the northeast.

Scharoun was designing at a time when the new architecture promoted by Le Corbusier and others in the aftermath of the First World War was an exciting prospect. In 1923 Le Corbusier had published *Vers Une Architecture*, in which he celebrated (amongst other things) the beauty and adventure associated with ocean-going liners.

Scharoun had been a contributor to the *Weissenhof* housing exhibition in Stuttgart in 1927, alongside Le Corbusier, Mies van der Rohe, Walter Gropius, and others.

The use of large areas of glass and of steel as a structural material were well-established, and some architects – Le Corbusier in particular – had been experimenting with the free-planning that framed structures made possible (for example in the ‘Dom-Ino’ idea of



1914 and in the Villa Savoye of 1929), and the reduced division between inside and outside which large areas of glass allowed. The development of central heating had also made planning less centred on the hearth; and electric lighting had been available for some years.

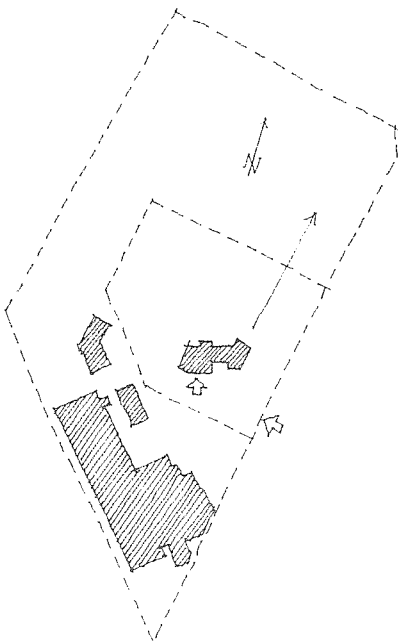
Scharoun had an adventurous and wealthy client who seemingly wanted a house which manifested his forward-looking, ‘modern’ mentality. Mr Schminke would have had one or two resident servants.

Identification of place

Scharoun’s task was to identify places for all the mixed activities of dwelling: eating, sleeping, sitting being sociable, bathing, cooking, playing, growing plants, and so on.

Basic elements

The basic elements which Scharoun employed were, primarily: the platform, the roof, the wall, the glass wall, and the column. Most important of these are the two horizontal platforms and the roof, between which all the internal spaces of the house are contained, and which also form the terraces at the eastern end.

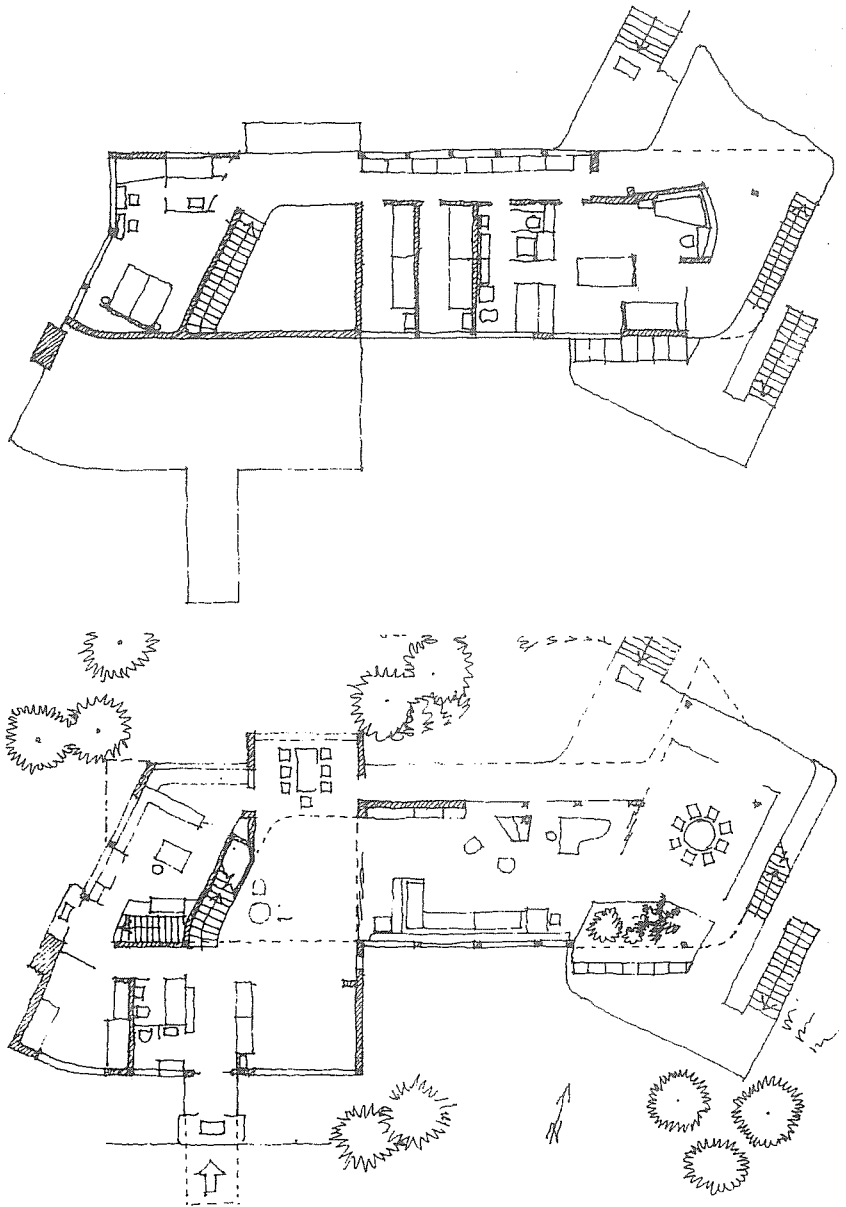


Other basic elements used include: the path, only clearly defined when in the form of staircases and in the landing on the upper floor; the pit, which identifies the area of the conservatory; and the canopy which identifies the place of the main entrance. There is a hearth which is a focus, though not a particularly imposing one, in the living area. Also, the chimney stack to the central heating boiler, at the western end of the house, acts as something of a marker, though possibly Scharoun wanted to play this vertical element down, against the prevailing horizontality of the platforms and roof.

Although these basic elements combine to form the house in its setting, Scharoun seems to have tried, for the most part, to avoid the traditional combined elements of enclosure and cell. These are found only where unavoidable: in the maid's bedroom, the sanitary provisions, and in the children's bedrooms. Elsewhere, in the main living spaces, and in the master bedroom at the eastern end of the house, the cell is not used; such enclosure being negated by the use of glass walls.

Modifying elements

The most important modifying element in the Schminke House is light. It has been carefully planned with sunlight and views uppermost in the mind of the designer. Also, the provision of electric light has been very carefully thought about, and used precisely to identify different places in the house.



The views and the sunlight exert opposing forces on the house. To the south of the site, in the direction from which the sun shines, is the less attractive prospect – the factory. The better views are to the north and northeast. Scharoun tackled this dilemma by allowing the sun's light into the building through the south-facing walls, part of which is formed into a conservatory, but also orienting the living spaces towards the views, through glass walls

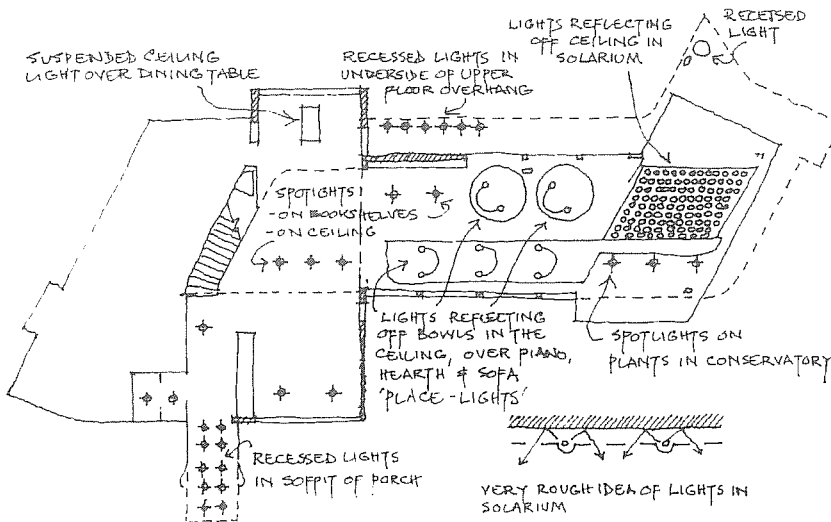
on the northern face of the house. On both of the main living levels of the house he projected decks out to the north (the pointed deck on the upper level is particularly distinctive), seemingly designed to catch the summer evening sun from the west.

The lighting plan shows the care with which Scharoun used different kinds of electric light to help identify

the factory from the garden.

Inside, the main internal stair and the hearth in the living space are two distinctive examples of elements used by Scharoun to do more than one thing at once.

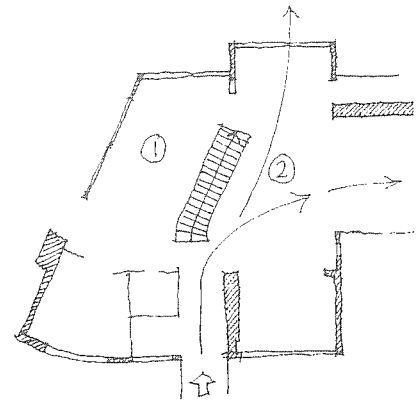
The stair between the entrance level and the upper level of the house is situated just opposite the main entrance. It has a slight change of direc-



different places within the house. He designed light fittings especially to achieve a variety of effects; some of them he actually called *Platzleuchte* – place-lights. (Two photographs, reproduced in the book on Scharoun by Peter Blundell Jones, show the great difference in the character of the living spaces in sunlight and at night, and the dramatic effect of the different kinds of electric light used by Scharoun.)

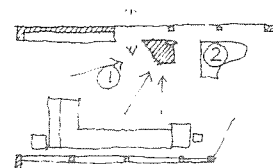
Elements doing more than one thing

The house contains the living places, but it also acts to divide the site. Its angle creates an entrance area off the access road; and its mass separates



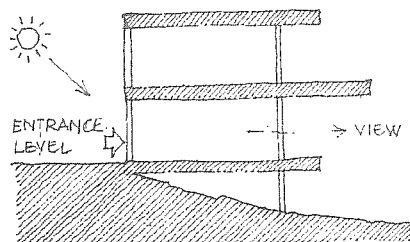
tion, curving on the bottom three steps. The primary purpose of the stair is obviously to make a pathway, a link for moving between the two levels. It is also used as the main part of the physical separation between the service end of the house (1) and the living parts of the house (2). The stair also does a third, more subtle, thing: its precise position and its angle on plan work to 'nudge' people entering the house to the right – i.e. towards the living places.

The hearth in the living space performs its timeless purpose as a focus, but it also acts as a divider between the piano place (2) and the living area (1).



Using things that are there

Scharoun used the views to the north and northeast to help in the organisation of his plan. But probably the most effective thing he used that was already there was the slope of the land. The effect of this is most appar-



ent at the important east end, which accommodates the principal living spaces. The slope allowed entrance into the house not at the lowest level (the traditional ground floor), but at the intermediate level, rather like boarding a boat. It also meant that, although one enters at ground level, without rising up steps or a ramp one finds oneself, once one has reached the eastern end of the house, a storey above ground. This effect is further exaggerated on the upper level – on the ‘prow’ outside the master bedroom, where one may survey the rolling land from a commanding height. The most frequently encountered photographs of this house show it like a small modern pleasure boat at its moorings.

Primitive place types

The house contains, but does not seem to celebrate in traditional fashion, the usual primitive place types one finds in any dwelling.

There is a hearth in the living area (which plays the various roles men-

tioned above) but it does not seem to be the *raison d’être* of the living spaces; there are other, more interesting architectural things going on.

Architecture as making frames

Like any house, the Schminke House frames the lives of its inhabitants. It does this in particular ways.

It emphasizes the horizontality of those lives, with its division into three pronounced horizontal levels which relate to the landscape around.

It doesn’t enclose those lives in a protective carapace; its platforms and roof protect them from the sky, but the transparent sides make them open to the horizon.

And its allusion to ships and sailing seems to suggest that the house is a vessel rather than a cell; accommodating adventure and change through time and space, rather than security in enclosure and stasis.

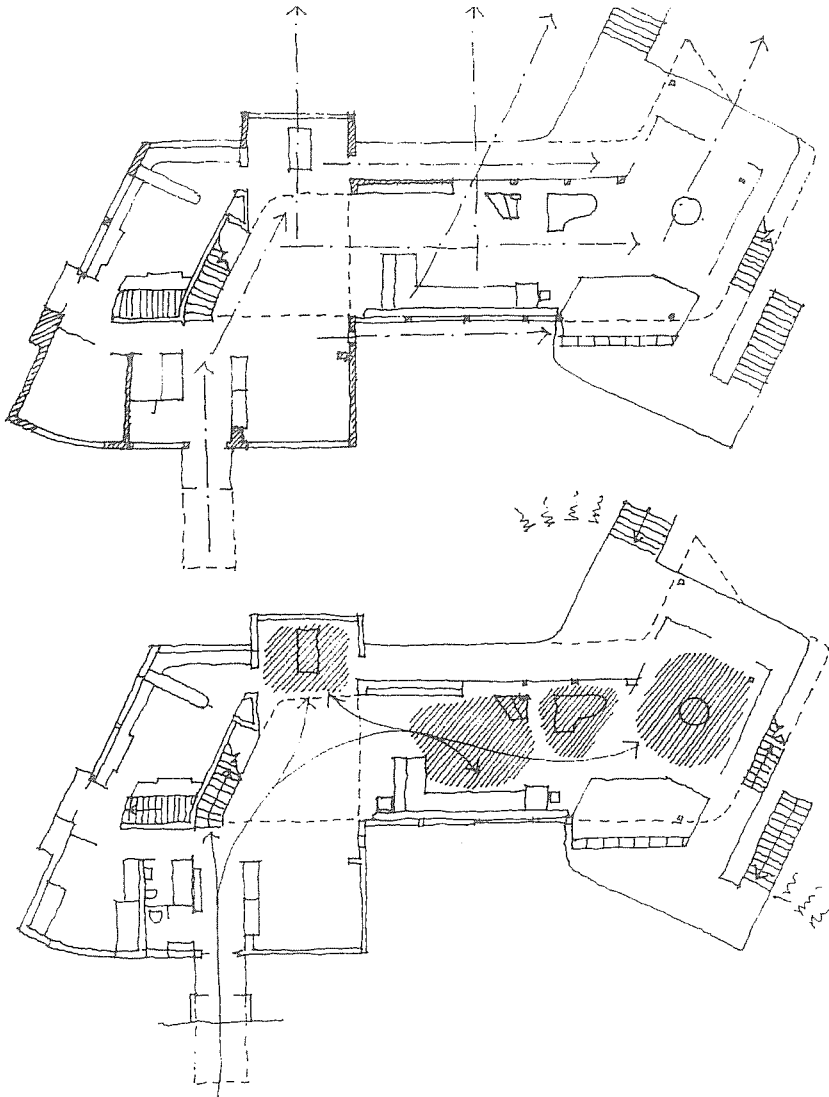
Temples and cottages

Three particular characteristics of the Schminke House belong to the ‘temple’: its separation of the living spaces from the ground level at the eastern end of the house; its use of highly finished materials; and its apparent arrogance in the face of climatic forces (Scharoun was no doubt depending on the central heating to make up for the heat lost through the large areas of glass, and on modern materials to prevent the flat roof from leaking).

Otherwise the house exhibits some ‘cottage’ characteristics: its responsiveness to site – sun and ground;

In the lower of these two drawings you can see (reading from left to right) the distorted circles of presence of the dining table, the hearth, the piano, and the table in the solarium. It also shows the lines of passage which thread between and through them.

The upper drawing shows the principal lines of sight in the plan. Notice that they follow three principal directions: one set up by the main entrance; another by the living area; and a third, at an angle, by the main stair and the solarium.



and its thorough relation of planning to purposes.

Although in this house there is an underlying armature of orthogonal geometry (a 'temple' characteristic) it is Scharoun's responsive attitude – to sun, to site, to views, to function – that twists this geometry into an irregular plan form. Though this results in a sculpturally interesting form, particularly at the picturesque east end of the house, Scharoun was not motivated solely by a desire to make form or paint pictures with his architecture.

Thus Scharoun's plans exhibit subtle conflicts between different kinds of geometry.

Geometry

First, there appear to be no instances where Scharoun has allowed the shapes of his spaces to be determined by ideal geometric figures, no circles, no squares, no rectangles with particular harmonic proportions.

Dismissing ideal geometry as a way of making decisions about the positions of things, his conflicts seem to have been between the geometries of being and of making. To these were added his perception that the site had within it two different grains.

One of the most obvious characteristics of the house is that it is not a simple, orthogonal form. The geometry of making is not given the highest priority, but is allowed to be distorted by other pressures.

These other pressures begin with the circles of presence, distorted as they are in most instances into rectangles of presence, and with the social geometries which constitute the various places in the house: the dining place, the place around the hearth, the place around the table in the solarium (at the extreme east end of the main living floor).

Next there are the lines of sight, within the building, and also from the inside to the outside. Scharoun seems to have seen the latter – the views – as being at an angle to the lie of the land which set the datum for the general grain of the house.

This overlaying of the different geometries, with a refusal to submit to the geometry of making, produced a distinctive response to the six-directions-plus-centre. The plans of the house have two overlapping grains. The 'up' and the 'down' direction are, at most positions, contained by the horizontal platforms and the roof. But with the four horizontal directions, the situation is more complex.

Taking the entrance as the starting point one is aware of the 'forward' and of the 'rearward'; one is also, as one enters, very much aware of the 'right', but the 'left' is diminished, being replaced by the deflection of the stair, (in the way already mentioned,) to reinforce the 'right' direction.

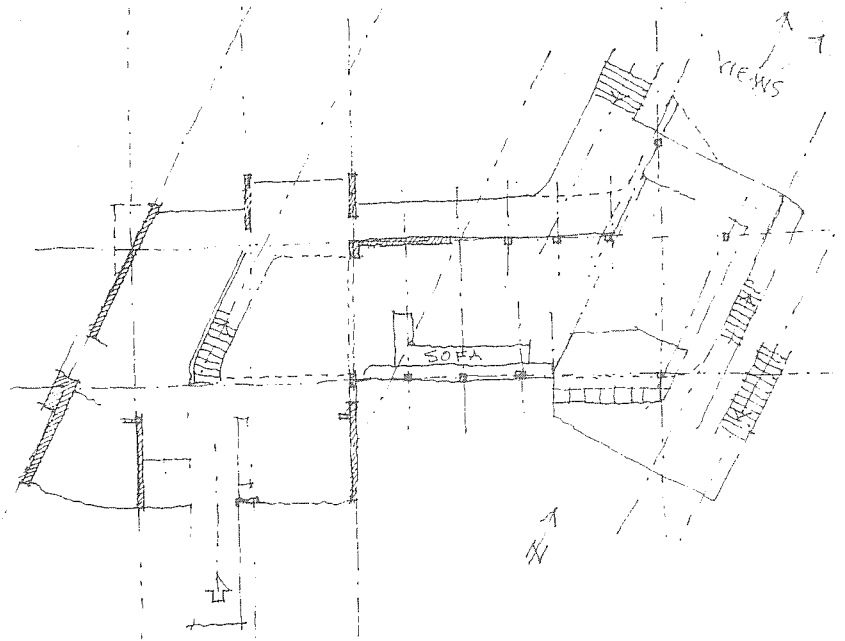
At the other end of the house, at the solarium, something different happens with the four horizontal directions. Here it is the 'forward' (roughly to the north) which is deflected, to focus the space more on the better views.

The house has no one centre, but a number: the hearth, the dining table, the table in the solarium, It seems that for Scharoun the most important centre was the mobile person.

Space and structure

The structure of the house is a skeleton of steel frame. Its columns are not laid out on a regular grid, but respond to the complex attitude to the six-directions mentioned above.

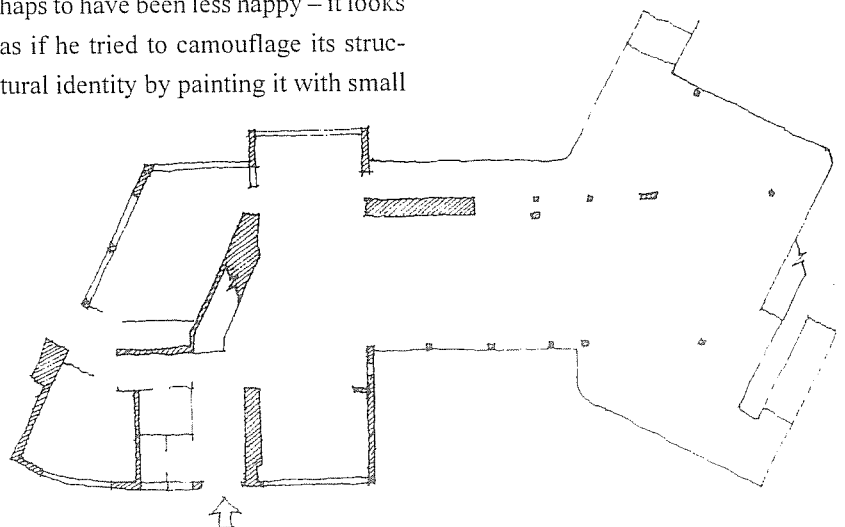
At the east end of the house the vertical structure – the columns – are reduced to a minimum to increase the openness of the spaces. Even so they



still contribute to the identification of places.

There is a column in the solarium which seems to help to identify its extreme corner; there is another on the deck outside which supports the prow above, and which also makes a 'doorway' between the deck at the top of the steps down to the garden and the narrower deck outside the solarium; and there is a third column in the conservatory, about which Scharoun seems perhaps to have been less happy – it looks as if he tried to camouflage its structural identity by painting it with small

In this drawing you can see the complementary grains of the house. They distort the simple geometry of making to take account of the alternative grains suggested by the lie of the land, the views, and the direction of the sun.



squares of different colours, making it into an elemental sculpture (as distinct from a place identifier) amongst the cacti.

At the other end of the plan the spaces are more definitely enclosed by walls and windows. The boiler chimney stack, at the extreme west end of the house is built of brick – a weighty contrast to the apparent levitation of the decks at the other end of the house.

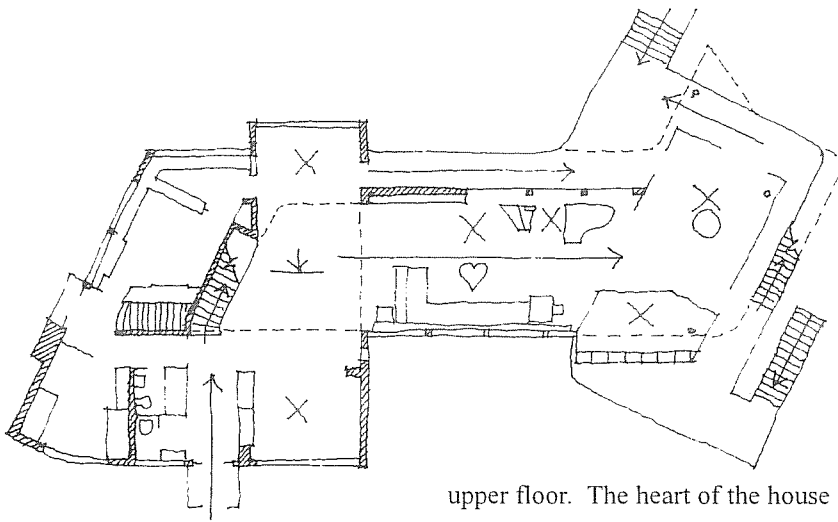
The static places in the plan tend to be at the extremities: the dining area; the solarium; the conservatory; the bedroom and the prow of the deck on the

is reversed by the progressive openness of the rest of the house.

Scharoun was adept at making zones between the inside and outside. There are the various decks on both levels, which create an intermediate zone which is neither inside nor wholly outside. There is the conservatory too, an inside space which also, unlike the majority of spaces in the house, has contact with the sky. And there is the solarium itself, which is a space more open than the living room but less so than the decks – a zone between the two.

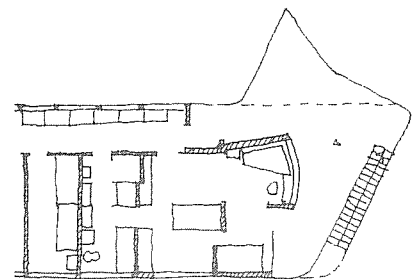
The dining area, not quite a zone between, is defined by the overhang of the landing above. It is at one end of what looks to be the remnants of a parallel wall space, which sets up an axis into the countryside through the broad window over the dining table.

On the upper floor the layout is more cellular, until one comes to the master bedroom which insinuates itself amongst a composition of planar walls, mostly arranged orthogonally, but with one wall slightly skewed to broaden the view to the northeast. This one piece of wall obeys neither of the two grains



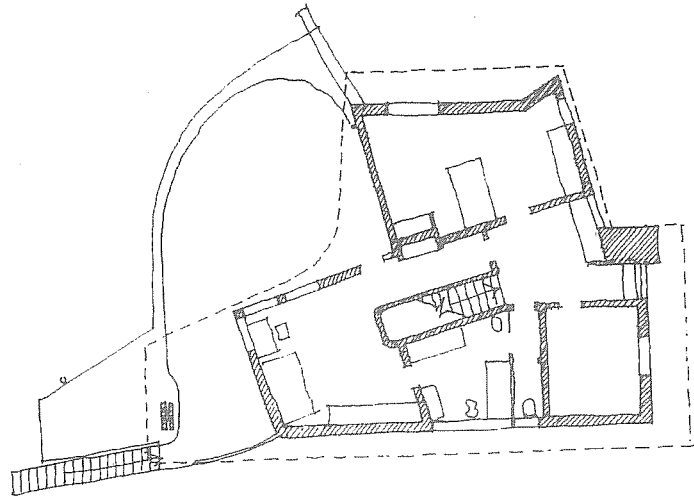
upper floor. The heart of the house is probably the living area, with its static focus the hearth. In some circumstances however, this heart also works as a dynamic space, a route from the hallway, which is the datum place of the house, to the solarium. Other, clearer dynamic spaces are the stairs, the deck outside the piano place, and the corridor landing on the upper floor.

The canopy over the main entrance begins a process of transition from outside to inside the building. This process of fairly abrupt enclosure



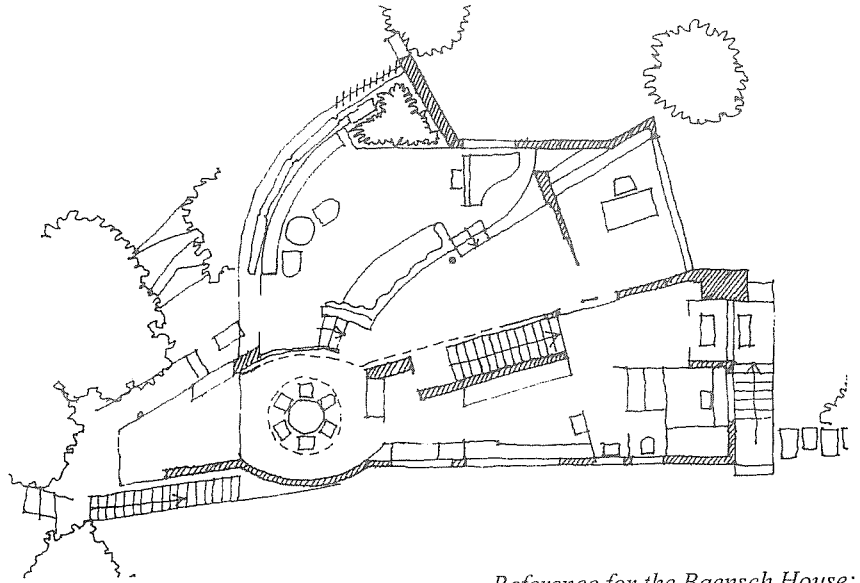
set up on the main living floor beneath; its 'freedom' is due to the independence of the two floors allowed by the 'Dom-Inn' idea.

The house is clearly stratified. There is an undercroft dedicated to the services of the house – the boiler room etc. The entrance floor, in the middle, is at one end a *piano nobile*. The upper living floor, further from the ground, is the sleeping floor, its contact with the sky manifest in the deck prowl outside the master bedroom which, in the summer, basks in evening sun.



Postscript

The Schminke House was the last house that Scharoun designed before the Nazis in Germany imposed restrictions on the styles in which architects could work. Unlike some of his Modern contemporaries Scharoun chose not to leave Germany. He designed a number of houses during the Nazi years, each with the outward appearance of traditional cottages. Scharoun expressed his rebellion against Nazi constraints covertly, by continuing to explore the potential of the non-orthogonal organisation of space into places. These are the plans of his Baensch House, which dates from 1935, two years after the Schminke.



Reference for the Baensch House:

Peter Blundell Jones – *Hans Scharoun*, 1995, p.13.

Reference for Merrist Wood:
Andrew Saint – *Richard Norman Shaw*, 1976, pp.112-113.

CASE STUDY THREE - MERRIST WOOD

Merrist Wood is an English Victorian house, designed by Richard Norman Shaw, and built at Worplesdon in Surrey, in the mid-1870s.

I shall not look at every aspect of this house, nor even at the house as it was built, but at an early version of the floor plan of the house, for a comparison can be made between this and the floor plan of the Schminke House (*Case Study Two*) which illustrates some crucial differences between nineteenth-century and twentieth-century 'Modern' organisation of space.

Merrist Wood was built in the Old English style for Charles Peyto Shrubbs, who would have had a body of servants.

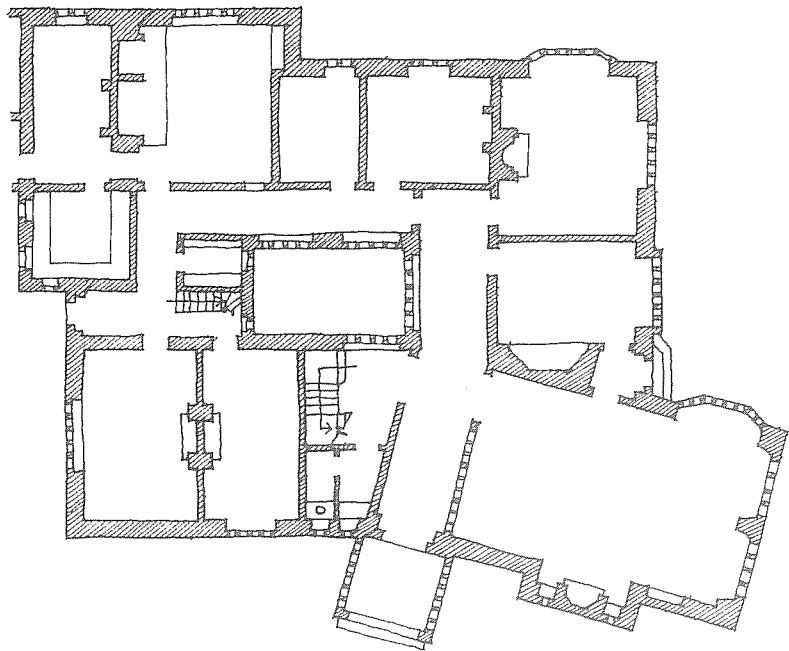
In designing it Shaw thought primarily in terms of load-bearing walls; as distinct from the 'Dom-Ino' idea which was available to Scharoun fifty

years later. Shaw did not have central heating available as an option.

The plan of the house as built clearly shows the consequences of these conditions. The rooms are mostly cellular. The hall, which is at an angle to the rest of the plan, is a double-height space, with a tall bay window looking down a slope into the garden and across the landscape. All internal space is compartmentalised into these cells, and apart from at the porch to the main entrance there is, on this ground floor, very little exploration of the zone between inside and outside.

A small courtyard allows light into the centre of what would otherwise be a deep and dark plan.

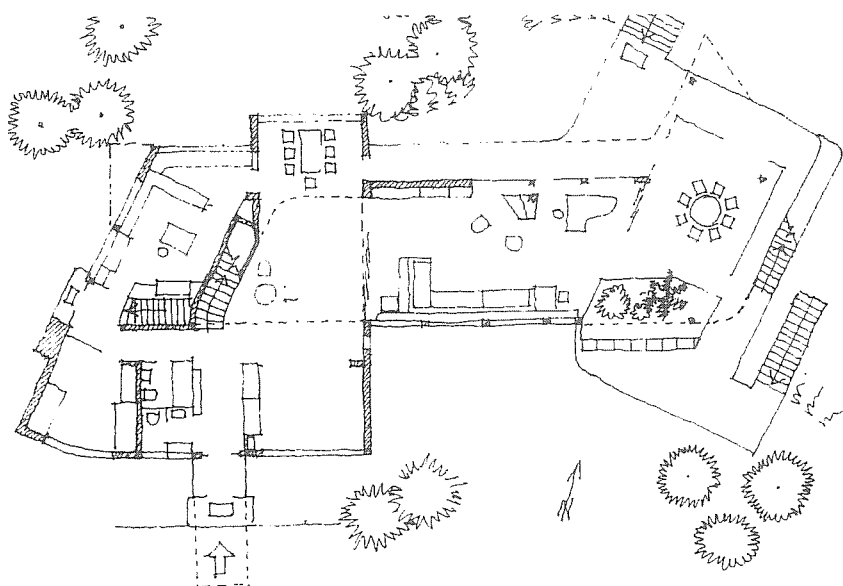
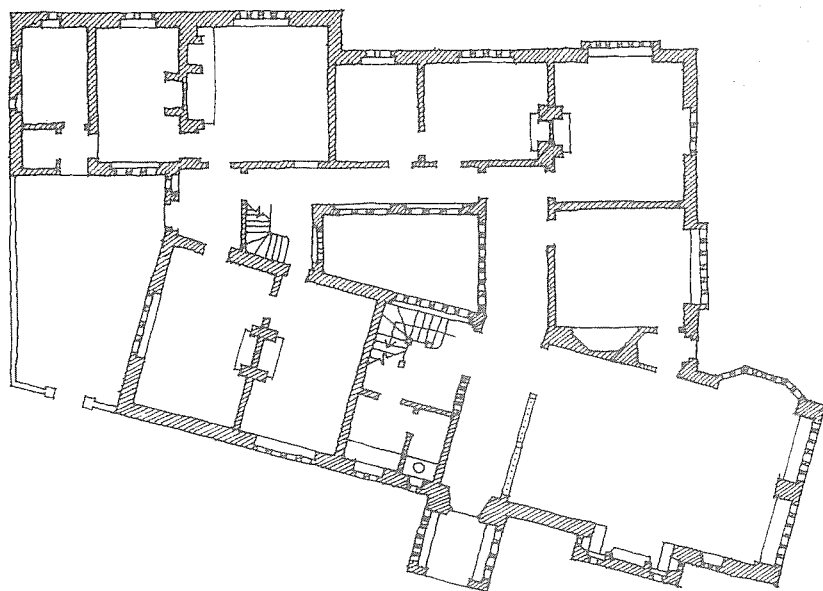
Windows are generally mullioned holes-in-walls. The nearest Shaw comes to creating a glass wall is the large bay window in the hall.



The plan of a previous version of this house is additionally interesting because it shows the whole of the front portion of the house set at an angle. It is this version that can be compared with the plan of Scharoun's Schminke House. (This is not to suggest that there is a direct historical connection between the two designs; though Merrist Wood was mentioned in Hermann Mutthesius's book *Das Englische Haus*, 1904, which publicised in Germany the virtues of late nineteenth-century English house design, of which Scharoun would have been aware.)

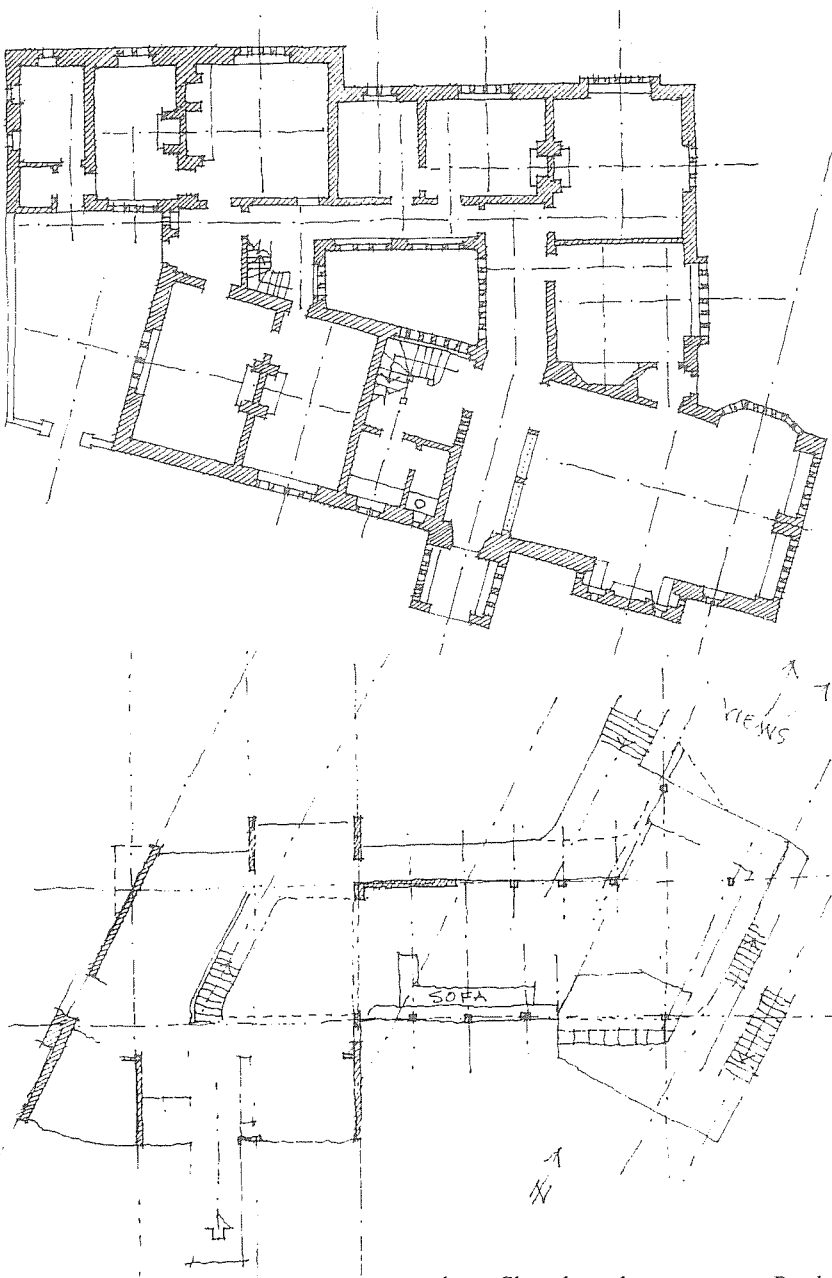
In both plans the servants' accommodation is set to the left, with its own entrance, and separated from the living spaces by the main stair to the upper floors and the ablutions. In Merrist Wood the servants' accommodation is larger, occupying at least fifty per cent of the ground floor area.

The most notable comparison between the two plans however is the juxtaposition of two grains set at an angle to each other. In the Scharoun plan the angle between the two main sections of the house is about 26 degrees; in the Shaw plan about 29 degrees. Rather like the Schindler plan (*The Falk Apartments*, 1943) discussed in the chapter on *Elements Doing More Than One Thing*, Shaw manages to condense all the difficulties which might arise from using two orthogonal grids at an angle to each other, into an odd-shaped servants' stairwell, the non-rectangular light courtyard, and a small link between the hall and the drawing room.



The orientation of the Shaw plan, with the sun and the view in the same direction, is approximately the opposite of that of the Scharoun plan.

Though both used two orthogonal grains or grids as the bases of their plans, the distinct difference between the ways in which these were used is that whereas Scharoun overlaid

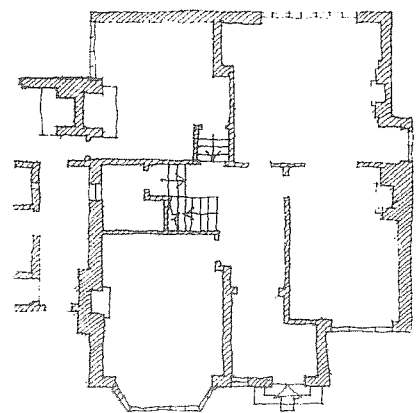


them, Shaw kept them separate. Partly, if not mainly, this difference is a consequence of the greater planning freedom allowed to Scharoun by the frame structure, and of the greater flexibility in lines of sight allowed by the glass wall. Shaw, by contrast, working fifty or so years earlier, was restricted to using the cell, window, and load-bearing wall.

The comparison between these two plans illustrates a great deal about the difference between Modern and Victorian space planning. Both houses had similar though not identical briefs. Their site conditions were similar, even though the orientation was opposite. The places that the two architects had to identify were more or less the same: servant accommodation; living space; morning space; eating space. Both architects were concerned about light and views.

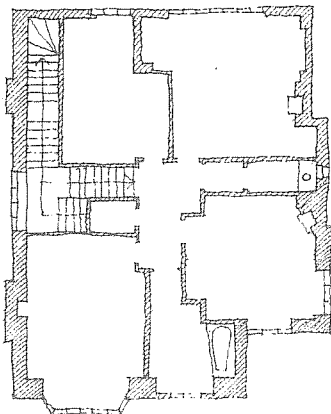
The differences between the ways in which they planned their houses were influenced by differences in the technologies available – frame structure versus load-bearing masonry; central heating versus hearth; glass wall versus hole-in-wall window – and by a more adventurous attitude (on the part of Scharoun) to the use of the various kinds of geometry.

This is not to suggest that Shaw was always content to accept the constraints of load bearing masonry structure on his organisation of space. Here

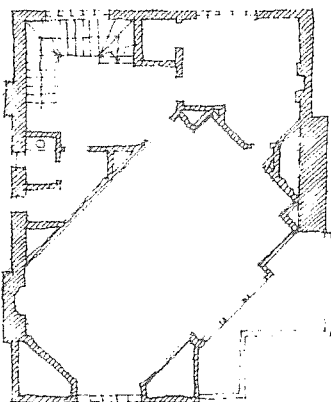


is the ground floor of a house he designed for Kate Greenaway, the Victorian children's author. On this floor,

and the floor above, the house is fairly conventional in its structural layout.



But on the top floor, where he wanted to provide his client with a studio lit from the northeast, Shaw allowed his space planning to contradict the structural geometry of the lower floors.

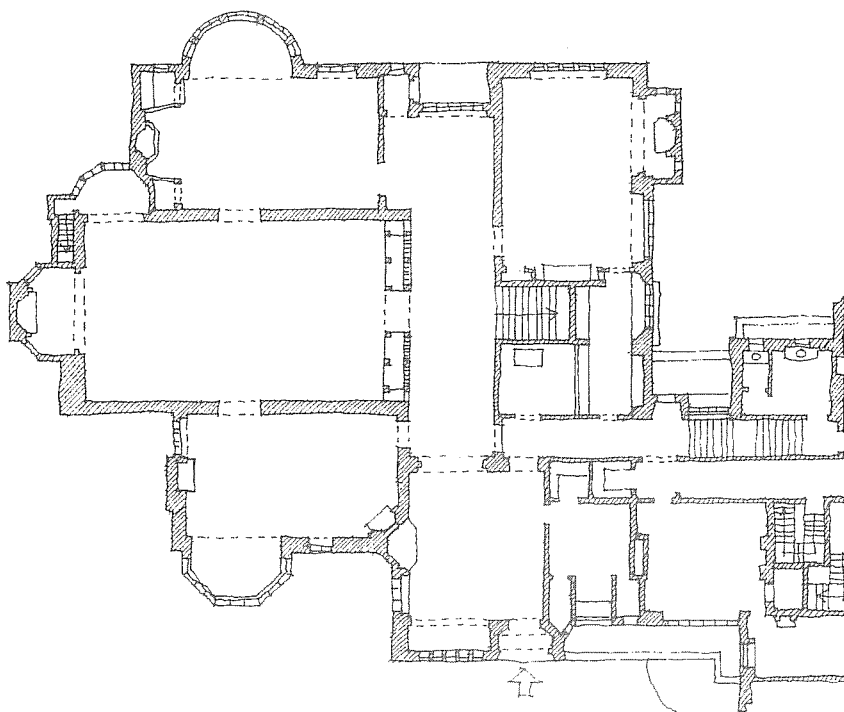
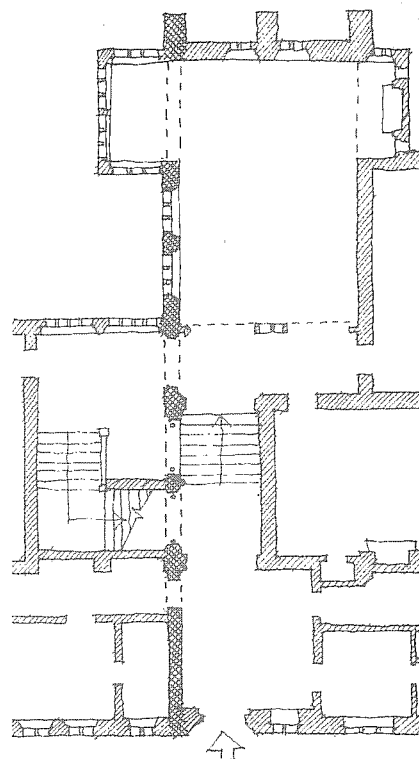


Even though diagonally set against the orthogonal grain established on the floors below, this studio remained largely a cell, closely bounded by its own four walls.

In other houses, however, Shaw explored how the structural authority of the load-bearing wall might be breached to allow a more flexible moulding of space.

On the right is part of the ground floor plan of an unbuilt house designed for F.W. Fison. Linking the main entrance with the grand hall of the house there is a structural wall (double-hatched in the drawing) which along its length changes its character a number of times. It starts as a barrier between the entrance passage and the butler's room – an interface between the staff quarters and the hallway; then it crosses the stair hall, adding to the sculptured quality of that space; after becoming an orthodox wall with two mullioned windows, and then an archway to a rectangular bay window, it terminates as an external buttress.

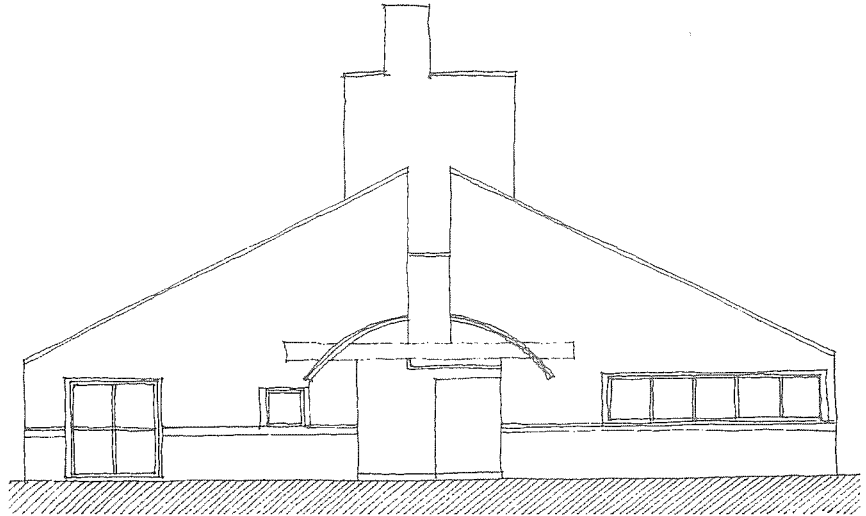
And at Dawpool (1882, below) Shaw repeatedly allowed 'bubbles' of space to penetrate the structural walls of the rooms, breaking their rectangles, and inhabiting the zone between inside and out.



Reference for Vanna Venturi House:
(Venturi) – Venturi Scott Brown &
Associates, on houses and housing
(Architectural Monographs
No. 21), 1992, pp.24-29.

CASE STUDY FOUR - VANNA VENTURI HOUSE

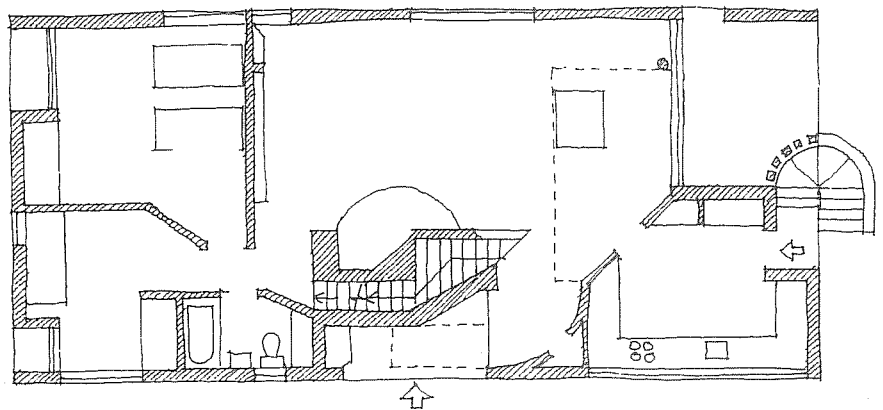
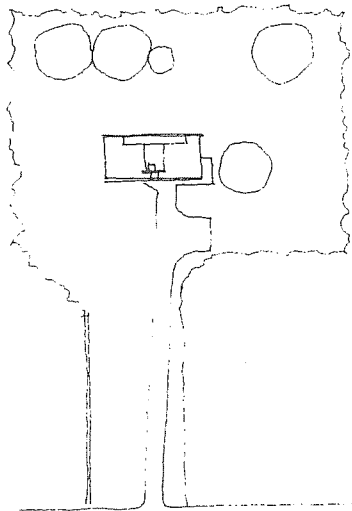
Robert Venturi designed this house for his mother. It was built at the prevailing orthodoxies of the Modern Movement, questioned them, and



Chestnut Hill, Pennsylvania, in 1962. At about the same time, he was writing a book called *Complexity and Contradiction in Architecture*, which was published in 1966. The design of the house is related to the argument of the book.

rebelled against them. His arguments are set out in detail in his book. In general he rejected the quest for simplicity and resolution associated with Modernism (arguments for which are found particularly in the writings and works of Frank Lloyd Wright, Mies van der

The site of the Vanna Venturi House is flat. Around its boundaries it is enclosed by trees and fences. It is entered through a neck of land, and the house is positioned to present its gable elevation to the approach.



Conditions

At the time of both the house and the book the teaching and practice of architecture were dominated by Modernism. Venturi, rather than accepting

Rohe and of Louis Kahn), in favour of complexity and contradiction, which he argued made products of architecture more witty and less boring; more appropriate (poetic) reflections of the

complexities and contradictions of life, and more stimulating, intellectually and aesthetically.

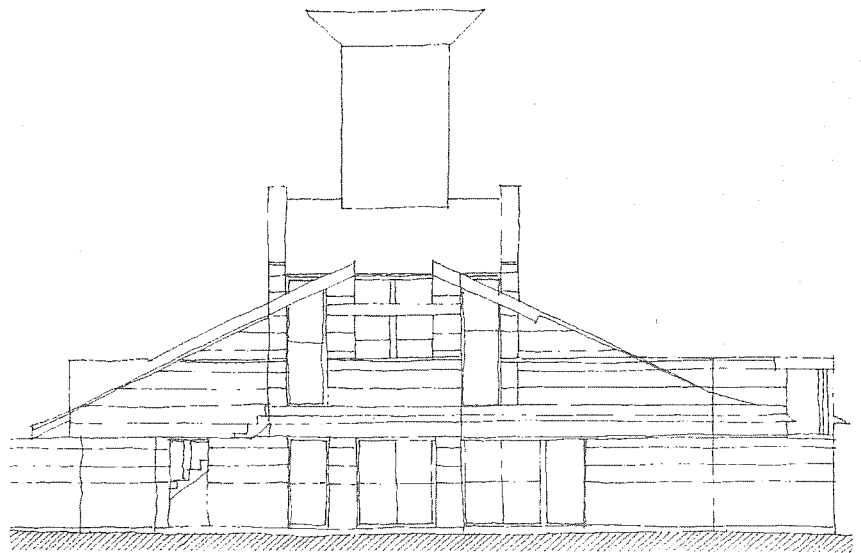
Venturi used the design of his mother's house to express through architecture his reaction against the orthodoxies and seriousness of Modernism. In it he consciously avoided what might be considered 'right answers', and contrived conflicts in the arrangement of forms and the organisation of space.

Basic elements

Even in his choice of basic elements Venturi expressed his reaction against Modernism.

The distinctive palette of elements used by orthodox Modernist architects included: the flat roof; emphasis (externally) of the horizontal floor; the column (*piloti*), allowing the opening up of the ground level and 'free planning'; and the glass wall, which reduced (visually) the cellular division of space internally and between inside and outside. Modernist architects also tended to play down the formal importance of the hearth, and of its external expression in the chimney stack. (Scharoun used this palette in his design for the Schminke House, *Case Study Two*.)

In his mother's house Venturi directly contravened every one of these 'rules' of Modernism. The roof is pitched; the horizontality of the floors is not expressed externally; there are no columns (except one – an expedient to hold up the roof over the dining area, and which is omitted in some pub-



lished plans of the house), and the house is firmly set on the ground; there is a glass wall (between the dining area and a covered terrace) but in the main elevations Venturi prefers to make windows (almost caricatures of traditional windows) in the walls; he also gives significant emphasis internally to the central hearth, and externally to its chimney.

Space organisation and geometry

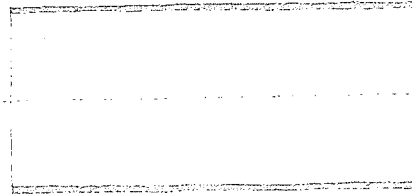
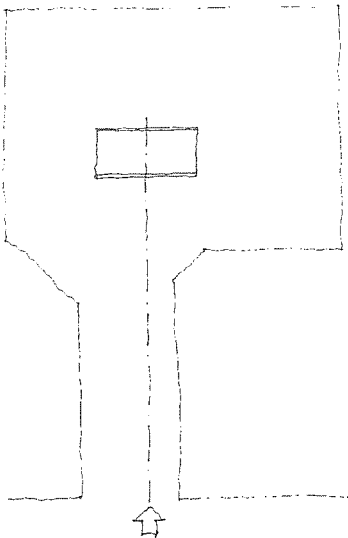
There are quirks in Venturi's design which are well-discussed elsewhere in critiques of this house: his 'mannerist' touches (the broken pediment of the front elevation for example); his (counter-Modern) use of ornament (the appliqué 'arch' superimposed on the clearly structural lintol over the entrance); the 'ingrowing' bay-windows in the downstairs bedrooms, and verandah off the dining area; the stair going up to nowhere from the upstairs bedroom; and so on. But Venturi's attitude of complicating and contradicting orthodox ways of doing things is perhaps most architectural (in the terms set out in this book) in his

In this early version of the Vanna Venturi House, the chimney stack is even more prominent than in the built version. In his architecture Venturi borrowed ideas from historical examples; he took the idea of prominent chimneys from British domestic architecture (of the Arts and Crafts and Edwardian period, and from the eighteenth-century work of John Vanbrugh) and from similar houses in the United States. Venturi was also interested in conflicts of scale: in this version the chimney is 'too big' for the house; in the final version (on the previous page) the chimney appears to be both 'too big' and 'too small'.

spatial organisation of the house and in the ways in which he deals with various of the sorts of geometry.

The design of the house 'begins' with two parallel walls, which define the area of ground of the inside of the house.

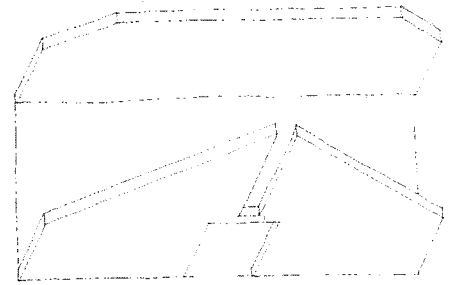
In positioning the house, Venturi lays the parallel walls across the main axis of the site.



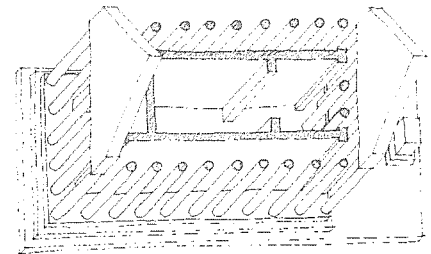
As discussed in the *Parallel Walls* chapter, these tend to establish a longitudinal axis which sets up a dominant direction within the plan and also begins to order relationships between 'inside' and 'outside'. But Venturi contradicts the orthodox architecture of parallel walls in a number of ways.

First he positions the walls perpendicular to, rather than parallel with, the principal axis of the site, which is the axis of entrance (left).

Then he contradicts the arrangement of gables found in ancient parallel wall buildings (temples), by placing the gables of his complex roof

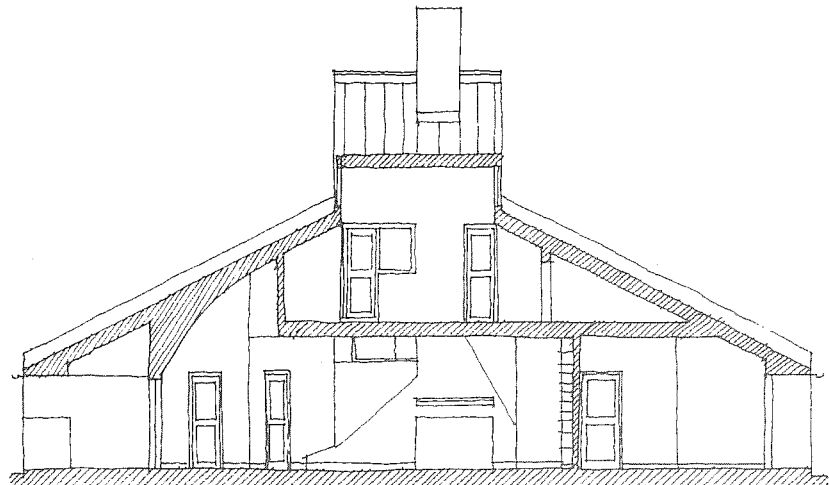
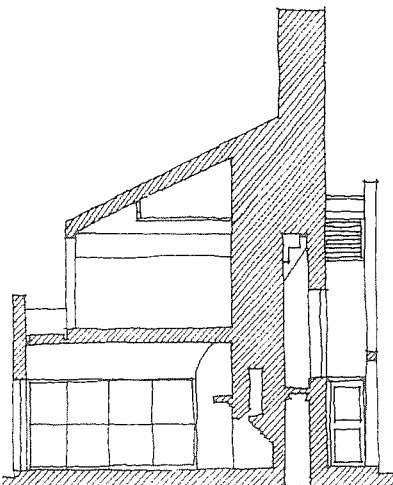


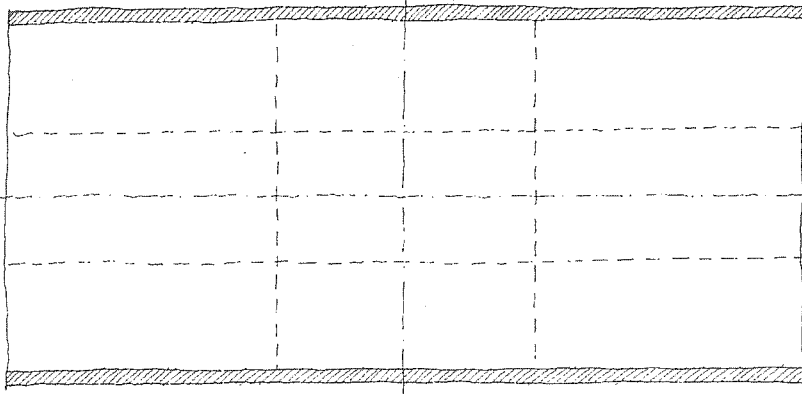
on the long sides of the rectangular plan. In ancient temples it was the geometry of making that influenced the three-dimensional geometry of the roof, resulting in triangular pediments



at each end. Venturi's contradictory arrangement, together with his avoidance of columns, results in the 'front' of his mother's house being like a pediment on one of the 'wrong' sides of the rectangular plan, and resting directly on the ground.

As can be seen in the sections (below), the geometry of Venturi's roof

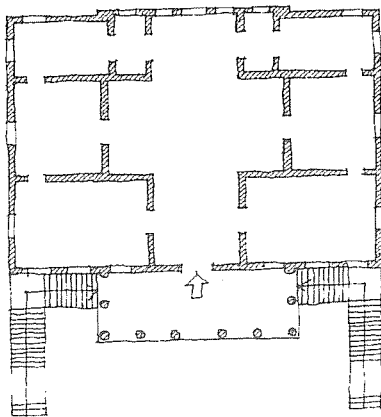




is complex: there are slopes in three different directions; it doesn't always reach the walls that 'should be' its support. (This happens over the entrance, and at the 'ingrown' balcony outside the upstairs bedroom, and reinforces the sense that these very two-dimensional walls are 'masks', screening rather than expressing the inside – another counter to the Modernist suggestion that barriers between inside and outside should be broken down.)

Venturi's contradiction of orthodoxy informs his plan too.

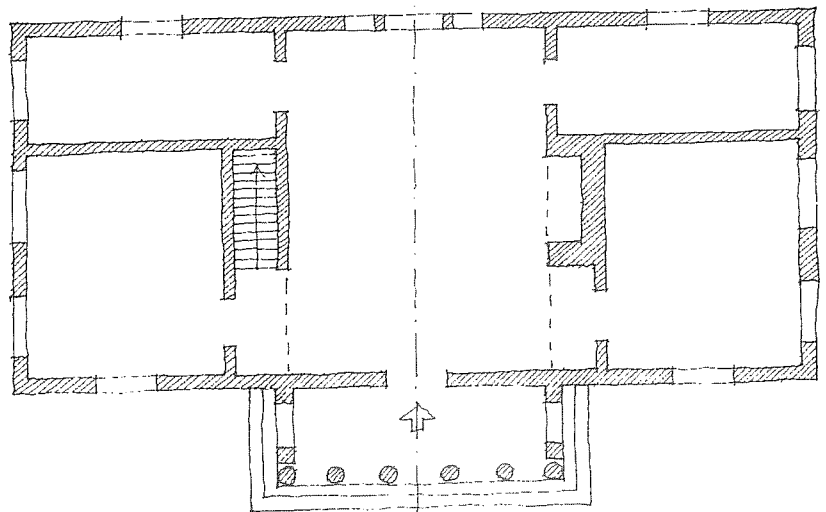
In his own explanation of the house in *Complexity and Contradiction in Architecture*, Venturi describes his plan as deriving from, but a distortion of, 'Palladian rigidity and symmetry'.



As Rudolf Wittkower has shown in *Architectural Principles in the Age of Humanism*, Palladio's villa plans, whether square or rectangular, were generally arranged according to a division into three in both directions; they were given a dominant central space, surrounded by subsidiary rooms. (Bottom left, for example, is Palladio's Villa Foscari.)

If Venturi's design had followed these Palladian arrangements, it might have turned out something like this:

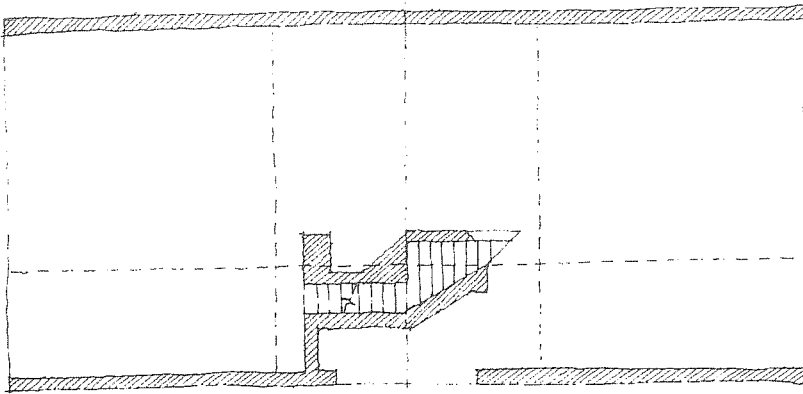
If he had adhered to Palladian principles, the plan of Venturi's house might have been like this.



with a large room in the middle, and secondary rooms arranged symmetrically at the sides. There might have

been a portico protruding at the front. Windows would, as far as possible, have been arranged symmetrically within rooms. The staircase and fireplace might have occupied equivalent positions in the two halves of the plan.

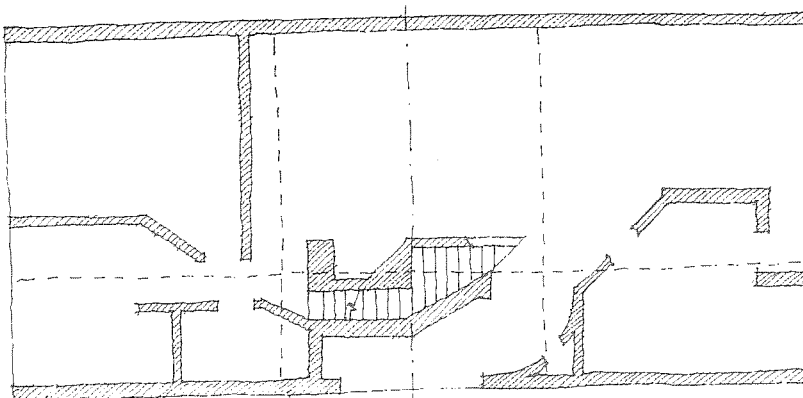
Venturi broke this Palladian discipline in various ways, establishing and then destroying symmetry; creating then denying axes.



The fireplace and the stair compete for space with the entrance...

The contradictory 'move' that he appears to make first (above), is to bring the stair and the fireplace together, and to position them centrally so that they block the axis of entrance. In the Palladian plan that axis would be open, as a line of passage leading into the main central space (and maybe also as a line of sight out into the surroundings). Venturi, having set up the axis, denies it with solid.

... and partition walls distort Palladian geometry to accommodate different-sized spaces.

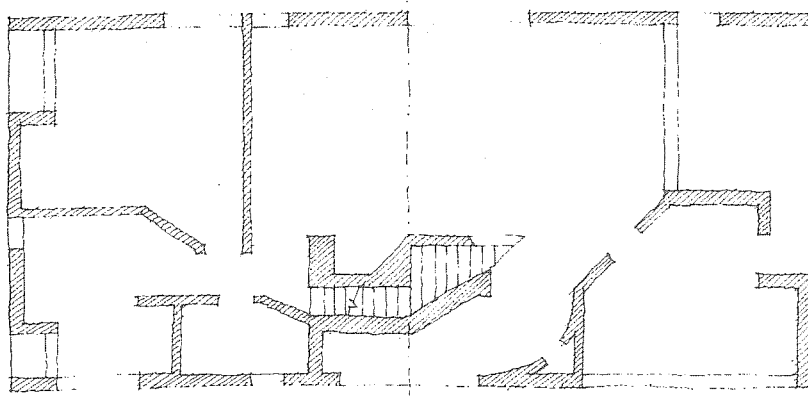


This 'move' does other things too. It creates a porch, but one that recedes into the building rather than projecting out from it.

It also gives Venturi another opportunity for complexity by setting up a situation in which entrance, stair and fire all vie to occupy the same part of the plan. The orthodox form of each is changed in some way in response to this (contrived) 'competition' for space: the fireplace is moved off axis to allow room for the stair; the stair is narrowed half-way up conceding to the chimney stack; and Venturi makes the entrance doorway, which itself has been usurped from its axial position, 'push' the adjacent wall to an angle that nudges into the stair.

The angle of this wall seems intended to acknowledge the line of passage into the house, now made diagonal, mitigating slightly the blocking effect of the stair and fireplace. The line of passage is further managed by the quadrant curve of the closet wall, turning an axial Palladian line of entry, into a chicane.

Elsewhere in the plan (left) partition walls are positioned both to accord with and to distort Palladian orthogonality. The wall between the living room and the bedroom (to the left on the plan) is at a right angle to the parallel walls, whereas the walls which run across the plan, which help delineate the small bedroom, the bathroom, entrance, and kitchen, are afflicted by a spatial warp, seemingly caused by the position of the stair and fireplace.



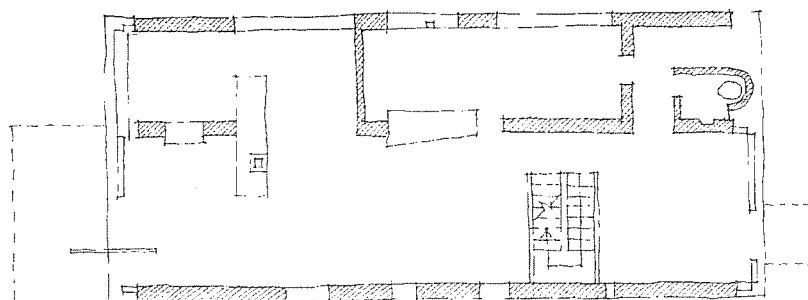
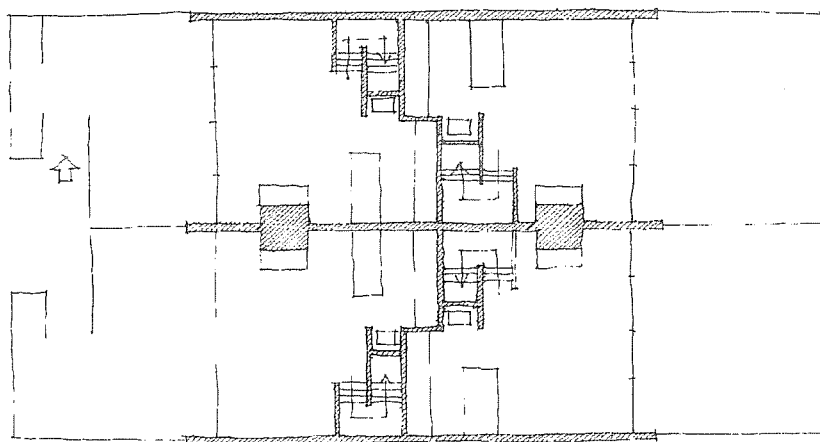
Venturi breaks a classical rule of architecture by positioning a window so that its edge, rather than its centre-line, aligns with the axis of the house. Another window has the end of a partition wall intruding into it.

Finally, the positioning and nature of the window and door openings presents Venturi with more opportunities for architectural contradiction.

A Modernist use of the parallel wall strategy would probably make a clear differentiation between the characters of the 'ends' and the 'sides'. In Craig Ellwood's design for example,

(below) the end of each apartment is fully glazed, and there are no openings in the side walls. In the Maisons Jaoul (bottom) by Le Corbusier openings in the side walls are clearly such, while the end walls are screens.

Venturi refuses such clarity, putting a mix of types of opening in each elevation of the house.



In these apartments designed by Craig Ellwood (above), and in the Maisons Jaoul by Le Corbusier (one of which is shown below), the nature of the interface between inside and outside is very different at the ends of their parallel-wall plans from the sides. The ends tend to be glass walls, and the sides walls with windows in them. Venturi, in contrast, mixes the two types of wall on all four faces of his mother's house.

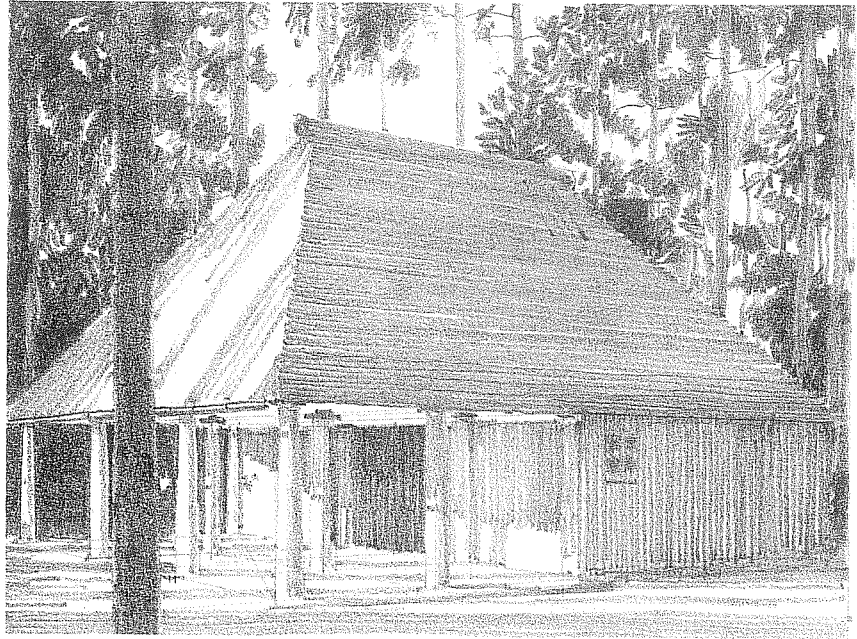
Reference for The Woodland Chapel:
Caroline Constant – *The Woodland Cemetery: towards a spiritual landscape*, 1994.

CASE STUDY FIVE - THE WOODLAND CHAPEL

The Woodland Chapel stands in the extensive grounds of the Woodland Crematorium, on the outskirts of Stockholm. Designed by Erik Gunnar Asplund, just after the First World War, it was intended for the funerals of children.

interest was in the power of traditional forms and methods of building – a movement which has been called 'National Romanticism'.

The chapel is reached through the grounds of the Woodland Crematorium. Around the main crematorium –



At first sight the chapel appears simple and without pretensions to being anything more than a rudimentary hut in the woods. But Asplund managed to imbue this unassuming, elemental building with a remarkable range of apt poetic ideas. The underlying subject of the 'poem' is, of course, death.

Conditions

Asplund designed the Woodland Chapel at a time before Modernism had become the dominant movement in Swedish architecture. The prevailing

a later building also by Asplund – the landscape is open, undulating, and with a 'big' sky. By contrast, the Woodland Chapel is hidden away, in a dark wood of pine trees.

Identification of place

Asplund's task was to identify a place for funeral services; where family and friends could come together to mourn.

Basic elements

Basic elements are used in clear and straightforward ways. There are

defined areas of ground, columns, walls, and a roof. There is a pathway leading to the building, a platform on which the coffin is placed, and another used as the lectern. The floor, walls and roof form a simple cell, in which there is a doorway on the line of the approach, and a small domestic window in one corner. The floor around the perimeter of the inside of the chapel is raised by two steps, suggesting that the main place is a shallow pit.

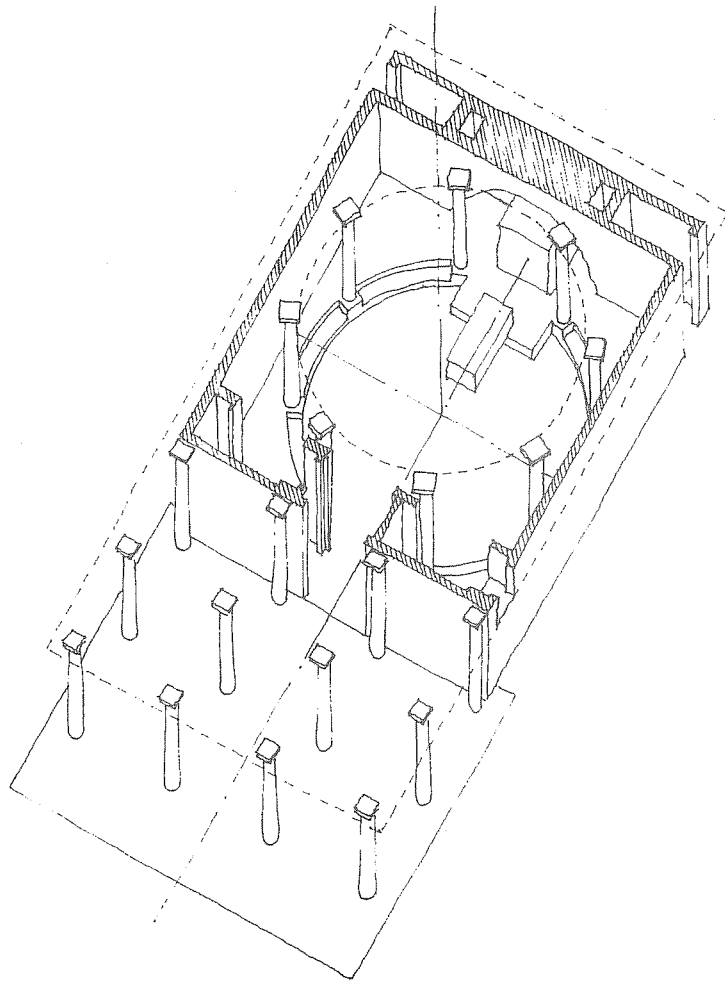
Modifying elements

The chapel stands in the dappled light of the wood. There is the faint smell of pine. Walking towards the building, one's footsteps are muffled by the carpet of pine needles, except on the stone paving which defines the area of the chapel floor, inside and under the porch.

Inside, the main place is lit by a roof-light at the highest part of its domed ceiling. Sounds are reflected by the hard surfaces.

Elements doing more than one thing

As one approaches, the roof appears as a pyramid, and acts as a marker. The porch columns support the roof, but also channel the route into the building. The returns of the walls alongside the entrance help to create small subsidiary places off the main chapel space, but they also make the cell walls appear much thicker than they are, increasing its cave-like quality. This effect is reinforced by the deep reveals of the small window, and the niche in which the lectern stands. The



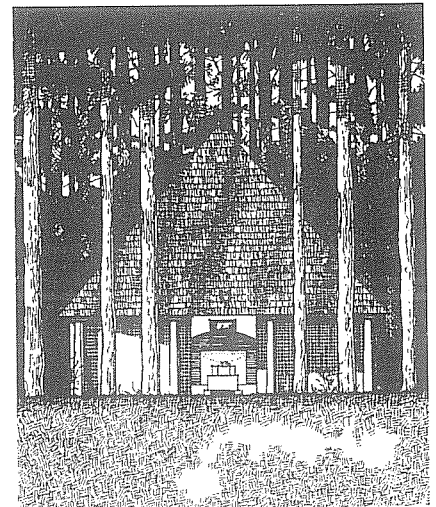
internal columns appear to support the dome above, but also define the main place.

Using things that are there

Asplund uses the woods to give the chapel a particular setting. The pathway to the building, which begins at a gateway some distance from it, strikes a straight line through the irregularly spaced trees. The porch columns are themselves like trees, though regularly positioned, bringing something of the character of the surrounding woods in under the roof.

Primitive place types

The niche in which the lectern stands is not a hearth, but like one.



(Externally there is a chimney stack in the same position, but this leads from the basement.) The lectern itself is like an altar. The catafalque, on which the coffin rests, is both a bed and an altar. It is also the focus of the performance place – like a clearing in the woods – defined by the shallow pit, surrounding columns and domed ceiling.

Architecture as making frames

The building is a temporary frame for the body of a dead child, and for the ceremony associated with its funeral.

In its outer form the chapel is like a house, framed by the surrounding woods. The porch frames the gathering mourners, who mingle with the columns (which have a presence like ancestors come to the funeral).

Under the roof there is also the cell which separates the special place of the ceremony from everywhere else, and inside that there is the pit and the ring of columns like a primitive henge. This circle, lit from the sky above,

frames the catafalque, which frames the coffin, which is itself a frame for the body. The lectern is framed in its own niche. The henge, catafalque, lectern, coffin, and the mourners are all framed, pictorially, by the entrance doorway, but architecturally by the womb-like interior.

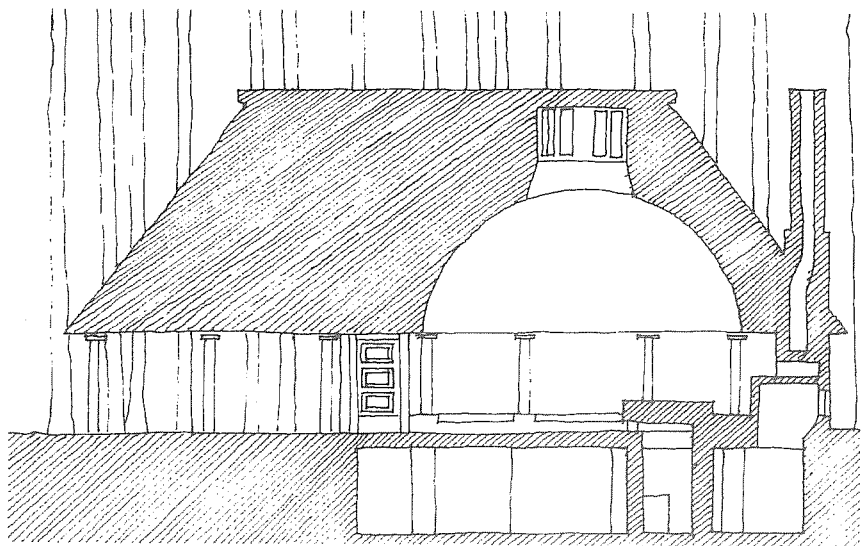
Temples and cottages

The chapel is a 'temple' in 'cottage' clothing; the unquestionable authority of death is cloaked in the appearance of domestic simplicity. The building, though not raised on a platform, is formal and symmetrical. It has no pragmatic irregularity, though its materials are simple and natural. Its scale is small; it is a building for human beings.

Geometry

Asplund employs many of the various kinds of architectural geometry.

The circle of columns – again like ancestors standing around the shallow pit – define, literally, the circle of pres-



ence of the catafalque and coffin; it is within the social geometry of this circle that the mourners sit.

The line of passage and the line of sight from the entrance gateway coincide. In experience and symbolically the building – the pyramid – terminates this axis. It establishes two of the six directions inherent in the chapel – stretching from the symbolic hearth to the western horizon and the setting sun.

The circle of eight columns set up the cross axis – the other two horizontal directions blocked by the side walls – and thus establish a centre. Below is the basement; and above is light coming through the 'sky' of the dome, (the ideal geometry of which disrupts the geometry of making of the roof). Through the centre is the vertical axis – the *axis mundi* (axis of the earth).

The catafalque is positioned, not at the centre of the circle on the *axis mundi*, but between the symbolic hearth and that vertical axis – suspended for the duration of the ceremony between home and eternity.

