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Complexity and Contradiction in Architecture: Selections from a Forthcoming Book

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The text used here is taken from Robert Venturi's *Complexity and Contradiction in Architecture*, copyright 1964. The Museum of Modern Art. Mr. Venturi's essay, the first in a new series called "The Museum of Modern Art Papers on Architecture," will be published in 1965 by the Museum of Modern Art, New York, in association with The Graham Foundation for Advanced Studies in the Fine Arts, Chicago.

I like complexity and contradiction in architecture – not the incoherence or arbitrariness of incompetent architecture and not the precious intricacies of picturesqueness. I speak of a wider and solidier matter: a kind of complexity and contradiction based on the need to consider the richness of experience within the limitations of the medium. This is acknowledged everywhere from Godel's proof of ultimate inconsistency in mathematics to Eliot's analysis of "difficult" poetry. And literary critics especially have pointed out the inherently paradoxical quality of the language of art.

But is not architecture similarly complex in its very inclusion of commodity, firmness, and delight? And are not the wants of program, of structure and mechanical equipment, and of expression, even in single buildings in simple contexts, diverse and conflicting in ways previously unimaginable not to mention the broader scope of city planning? I welcome the problems and exploit the uncertainties. By embracing contradictions as well as complexity, I aim for vitality as well as validity.

I am not intimidated by the puritanical, moral language of modern architecture. I like forms that are impure rather than "pure," compromising rather than "clean," distorted rather than "straightforward," ambiguous rather than "articulated," allusive rather than simple, perverse rather than impersonal, accommodating rather than excluding.

I prefer "both-and" to "either-or," black and white, and sometimes gray, to black or white. Contradictory relationships express tension and

give vitality. A valid architecture evokes many levels of meaning; its space and its elements become readable and workable in several ways at once.

But an architecture of complexity and contradiction has a special obligation toward the whole: its truth must be in its totality or its implications of totality. It must embody the sort of unity Cleanth Brooks described in poetry: "A unity [not] of the sort to be achieved by the reduction and simplification appropriate to an algebraic formula. It is a positive unity, not negative: it represents not a residue but an achieved harmony." More is not less.

Complexity must be constant in architecture. It must correspond in form and function. Complexity of program alone breeds a formalism of false simplicity; complexity of expression alone tends toward a formalism of multiplicity – an over-simplification rather than a simplicity on the one hand – a mere picturesqueness rather than complexity on the other. We no longer argue over the primacy of form or function; we cannot ignore their interdependence, however.

Orthodox modern architects have tended to recognize complexity either insufficiently or inconsistently. In their attempt to break with tradition and start all over again, they idealized the primitive and elementary at the expense of diversity and sophistication. As participants in a revolutionary movement, they acclaimed the newness of modern function over its complexity. In their role as reformers, they puritanically worked for the separation and exclusion of elements over the inclusion of diverse elements and their juxtapositions. Complexity of program has often accompanied a simplicity of form like early Le Corbusier's "great primary forms . . . which are distinct . . . and without ambiguity." Modern architecture, with few exceptions, eschewed ambiguity. More recent rationalizations for simplicity in architecture – subtler than the earlier arguments of modern architecture – are the various expansions of Mies' magnificent paradox, "less is more". Paul Rudolph has recently stated the implications of Mies' point of view: "All problems can never be solved, indeed it is a characteristic of the 20th century that architects are highly selective in determining which problems they want to solve. Mies, for instance, makes

1. Paul Rudolph, "Rudolph," *Perspecta, VII* (1961) p. 51.

2. *Ibid.*, p. 51.

wonderful buildings only because he ignores many aspects of a building. If he solved more problems, his buildings would be far less potent."¹

The doctrine "less is more" bemoans complexity and justifies exclusion for expressive purposes. It does, indeed, permit the artist to be "highly selective in determining which problems [he wants] to solve." But the architect, if he must be "completely committed to his particular way of seeing the universe"² – that is, selective in *how* he approaches problems – he must not select *which* problems to approach. He can exclude important problems only at the risk of separating his architecture from the experience of life and the needs of society. And if some of his problems in an inclusive kind of architecture prove insoluble, he can express this; there is room in architecture for the fragment, for contradiction and improvisation and their attendant tensions.

Mies' exquisite pavilions have indeed had valuable implications for architecture, but is not their selectiveness of content and language their limitation as well as their strength? I question analogies to pavilions, especially Japanese pavilions in our recent house architecture. Such forced simplicity is oversimplification. Johnson's Wiley House, for instance, separates and articulates the "private functions" of living below and the open social function above, but the building borders on the diagrammatic. It becomes a dry duality – an abstract theory of either-or – before it is a house. Where simplicity cannot work, simpleness results. Blatant simplification means bland architecture. Less is a bore.

The recognition of complexity and contradiction in architecture does not negate what Kahn has called "the desire for simplicity." But aesthetic simplicity, which is a satisfaction to the mind

3. D. S. Robertson, *Greek and Roman Architecture* (Cambridge, 1959).

4. August Hecksher, *The Public Happiness* (New York, 1962), p. 102.

5. Edmund W. Sinnott, *The Problem of Organic Form* (New Haven, Yale University Press, 1963), p. 195.

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if valid and profound, derives from inner complexity. The Doric temple's simplicity to the eye is achieved through the famous subtleties and precision of its distorted geometry. Robertson has pointed out the contradictions and tensions implied in the unique position of the corner triglyphs at the end of the architrave and off center of the columns, and the consequent enlarged end metope.³ The Doric temple could achieve apparent simplicity through real complexity.

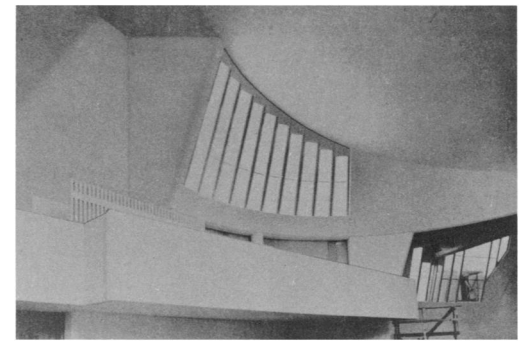
Kenneth Burke has referred to oversimplification as a valid process in analysis: "We over-simplify a given event when we characterize it from the standpoint of a given interest." But this is not the process of art. Literary critics have emphasized the complexity of the language of art, which is as inherently unsimple as its content. Others have characterized the interpretation of a work of art as the conscious play between the perception of what it seems and the conception of what it is. Its very meaning is in the discrepancies and contradictions of a complex juxtaposition.

I referred to some justifications for simplicity in early modern architecture – its exaggerated clarity as a technique of propaganda – its exclusive, almost puritanical, narrowness as an instrument of reform. But another reason is that things were simpler then. Solutions were more obvious if not easier to attain; the resolute Wright grew up with the motto "truth against the world." Such a slogan no longer seems adequate and our position is more likely, that described by August Hecksher: "The movement from a view of life as essentially simple and orderly to a view

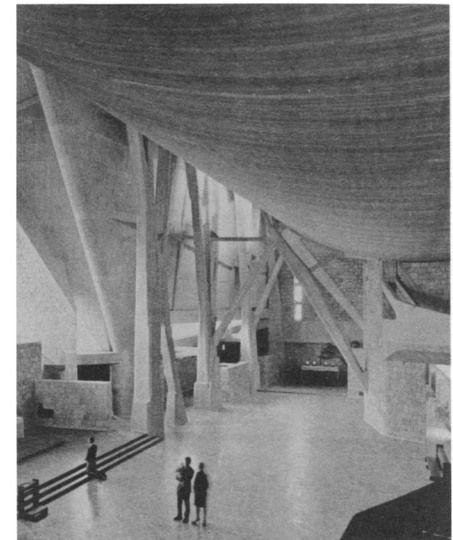
of life as complex and ironic is what every individual passes through in becoming mature. But certain epochs encourage this development; in them the paradoxical or dramatic outlook colors the whole intellectual scene . . . Amid simplicity and order rationalism is born, but rationalism proves inadequate in any period of upheaval. Then equilibrium must be created out of opposites. Such inner peace as men gain must represent a tension among contradictions and uncertainties . . . A feeling for paradox allows seemingly dissimilar things to exist side by side, their very incongruity suggesting a kind of truth."⁴ And Edmund W. Sinnott has referred to complexity in organic evolution: "Evolution has been primarily a process of increase in size and complexity. Natural selection, I think, has not put a premium on form *as such* but rather on the increased differentiation and division of labor that make an organism more efficient and likely to survive. This process has *necessarily* resulted in an increased elaboration of form, the laws of matter and energy being what they are."⁵

An architecture of complexity and contradiction, I reaffirm, does not mean picturesqueness or willful expressionism. If I am against purity, I am also against picturesqueness. False complexity currently counters false simplicity, and parallels other current architecture, which one of its authors calls serene. This reaction represents a new formalism usually as unconnected with experience and program as the former cult of simplicity. On the level of detail even, it cannot parallel a facility and exuberance of technique like the valid showing-off of late Gothic tracery of northern Mannerist strap work.

Our best architecture sometimes has rejected a simplicity through reduction in order to promote a complexity within a whole; the work of Aalto,



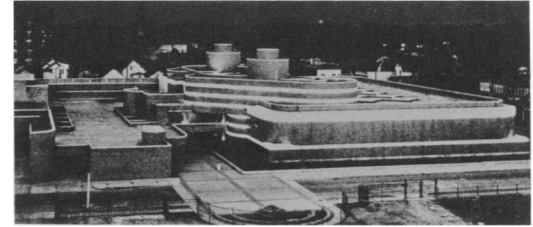
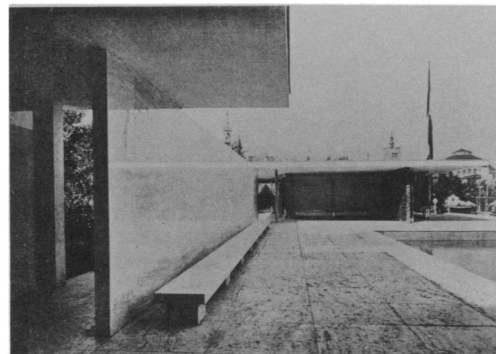
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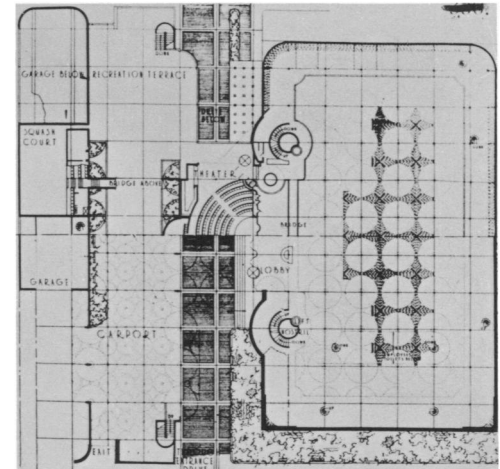
Le Corbusier (who sometimes disregards his polemical writings), and, sometimes, Wright are examples. But characteristics of complexity and contradiction in their work are often ignored or misunderstood. Critics of Aalto, for instance, have liked him mostly for some of his other characteristics, such as sensitivity to natural materials and fine detailing. I do not consider Aalto's church at Vvokenniska (1) picturesque, nor even an example of a justifiable quasi-expressionism like Giovanni Michellucci's Church of the Autostrada (2). Aalto's complexity is part of the program and the structure of the whole rather than an expressive device justified only by the desire for expression. Complexity must be the result of the program at least rather than the will of the author. The complex building creates a vivid whole despite its variety.



1-2



3-4



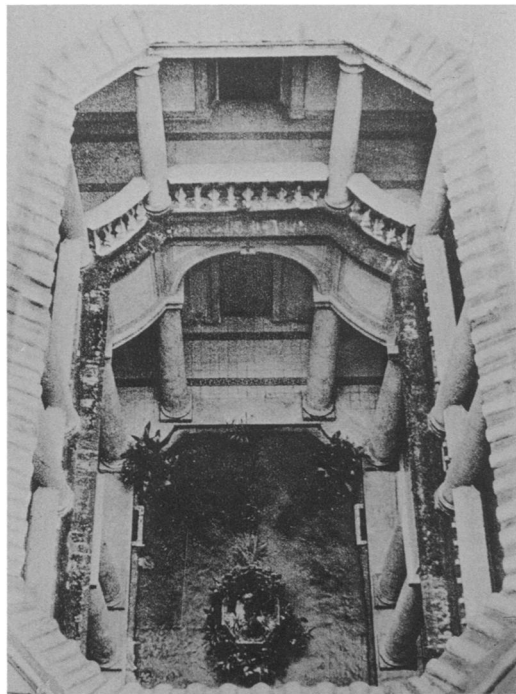
THE INSIDE AND THE OUTSIDE

A major manifestation of contradiction in architecture can be the contrast between the inside and the outside. One of the powerful orthodoxies of 20th-century architecture has been a continuity between the inside and the outside. The inside should be expressed on the outside, it says. But this is not really new in architecture. Only our means have been new. The Renaissance church inside, for instance (1), creates a continuity with the outside, because its interior vocabulary of pilasters, even cornices and drip moldings, are almost identical with its exterior elements in scale and sometimes in materials. The result is subtle modification but little contrast and no surprise. Perhaps the boldest contribution of orthodox modern architecture was the development of what has been called "flowing space" to achieve that end. The idea of flowing space has been emphasized by historians, from its early evolution in the Shingle Style interiors, traced by Vincent Scully, to its flowering in the Prairie House and its culmination in De Stijl and the Barcelona Pavilion (2). This kind of space produced an architecture of related planes, horizontal and vertical. The visual independence of these uninterrupted planes was scored by the connecting areas of plate glass: windows disappeared as holes in the wall and became interruptions of wall to be discounted by the eye as a positive element of the building. Such cornerless architecture implied an ultimate continuity of space. Its expressive and psychological emphasis on the oneness of interior and exterior space was permitted by the very

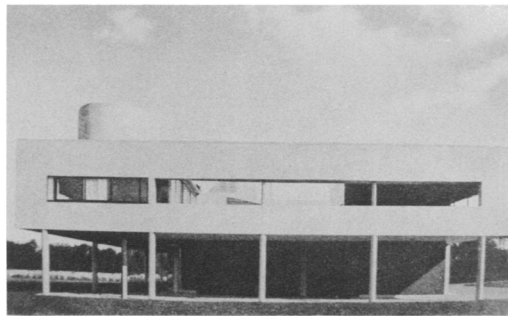
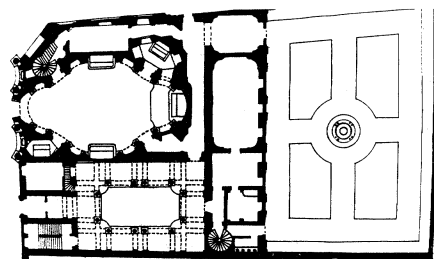
technology which, for the first time, made the inside thermally independent of the outside by means of mechanical equipment.

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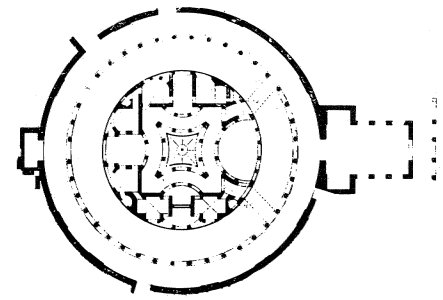
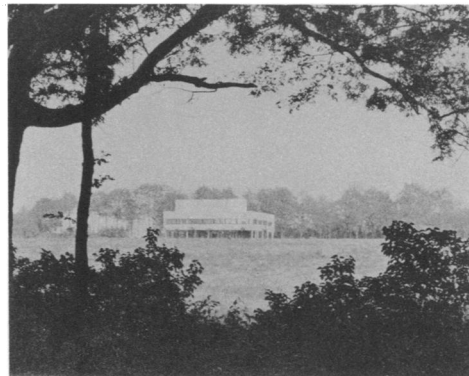
But the old tradition of enclosed and contrasted inside space which I want to analyze here, if less emphasized by recent historians, has been recognized by some modern masters. Although Wright did in fact "destroy the box" in the Prairie House, the rounded corners and the solid walls of the Johnson Wax Administration Building (3, 4)



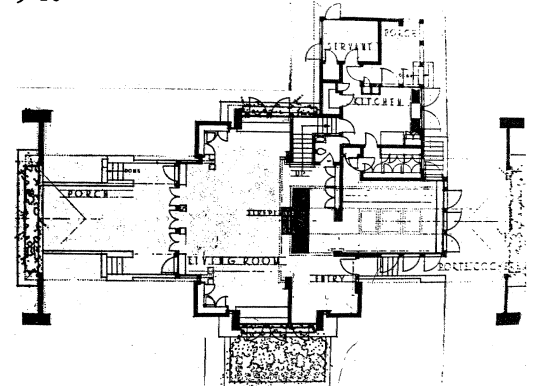
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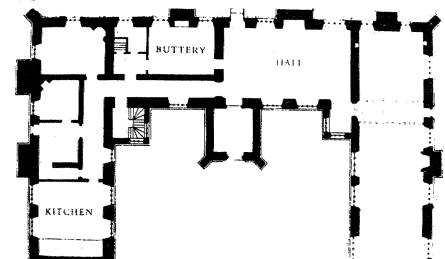
7-8



9-10



10-11



22

are analogous to the diagonal and rounded corners of Borromini's interiors (5, 6) and those of his 18th-century followers – and for the same purpose: to exaggerate a sense of horizontal enclosure and to promote the separateness and unity of the interior space by the continuity of the four walls. But Wright, unlike Borromini, did not puncture his continuous walls with window holes. That would have weakened the bold contrast of horizontal enclosure and vertical openness through the lighting from above. Also it would have been too traditional and structurally ambiguous for him.

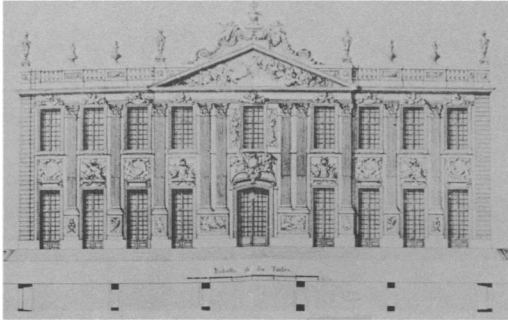
Most buildings require a separation of the inside from the outside: continuous wall and discontinuous space simply separate the inside from the outside through enclosure. As Louis Kahn has said: "a building is a harboring thing." The function of the house to protect and provide privacy, psychological as well as physical, is an ancient one. The Johnson Wax Building fosters a further tradition: the expressive differentiation of the inside and outside spaces. Besides enclosing the inside with walls, Wright differentiated the interior

light, an idea with a rich evolution in Byzantine, Gothic, and Baroque architecture and Le Corbusier's and Kahn's today. The inside *is* different from the outside.

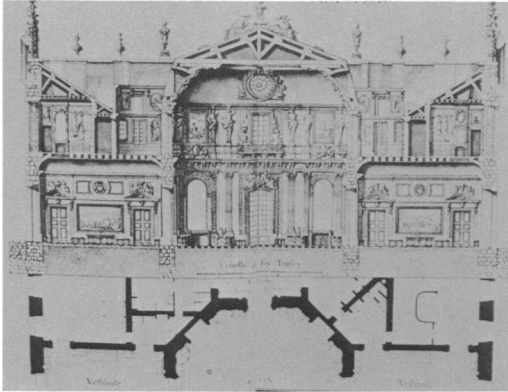
But there are other valid means of differentiating and relating outside and inside space which are foreign to our recent architecture. Eliel Saarinen referred to a building as the "organization of space in space, so is a city, so is a country." I think the idea of a *room* as a space in space could precede this series. And I should like to apply this definition of interspatial relationships, as Saarinen meant it, to intraspatial relationships – that is, not only to the spatial relationships of building and site, but to those of interior spaces within interior spaces. Another classic building of modern architecture, again admittedly not typical, illustrates my point. With its wall openings that are, significantly, holes rather than interruptions, the Villa Savoye (7) restricts any flowing space rigidly to the vertical direction. But there is a spatial implication beyond its enclosure that contrasts it with the Johnson Wax Building. Its severe, almost square enclosure surrounds an intricate interior configuration glimpsed through openings and from protrusions above. In this context the tense image of the Villa Savoye, from within and without, displays a contrapuntal resolution of severe envelope partly broken and intricate interior partly revealed. Its inside order accommodates multiple functions of a house: domestic scale and partial mystery. Its outside order expresses the unity of the idea of house at an easy scale appropriate to the green field it dominates, and possibly to the city it will one day be in (8).

A building can include things within things as well as spaces within spaces. And its interior configurations can contrast with its container in

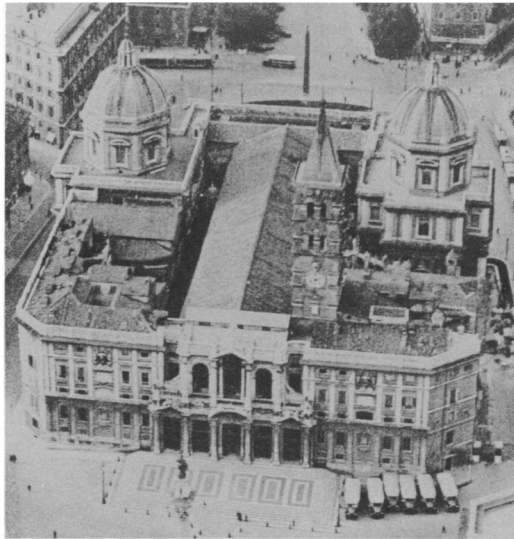
ways other than the Villa Savoye's. The circular perimeters of bearing wall and colonnade in Hadrian's Maritime Theatre at Tivoli (9) produce another version of the same spatial idea. Even Wright, although only suggestively, contains the interior intricacy of his Evans House (10) with a rectangular envelope implied by the sculptural corner posts. At the other extreme, the intricacies within the plan of a typical Jacobean manor such as Barrington Court (11) are hidden, maybe excessively, and are only incidentally expressed, if at all, on its rigid specifically symmetrical façades. The kitchen is equated with the hall. And the



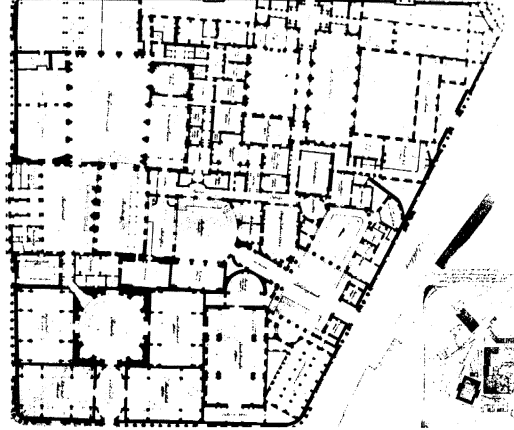
12a,b



intricacies in section of the Chateau at Marly (12), a concession to light and convenience inside, are a surprise in relation to its exterior walls from the outside. At a greater scale, Fuga's walls wrap



13-14

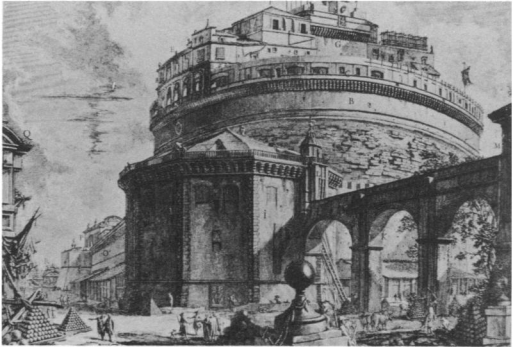


around S. Maria Maggiore (13), and Soane's walls enclose the distorted intricacies of courtyards and wings of the Bank of England (14), in the same way and for similar reasons: they unify outside, in relation to the scale of the city, the contradictory spatial intricacies of chapels or banking rooms that evolved in time.

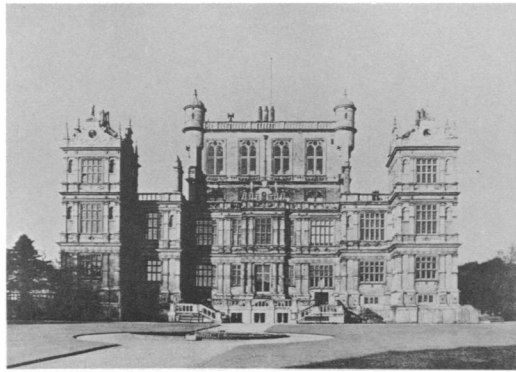
The baroque dome and drum on pendentives protrude beyond the parapets of their rectangular base, or in a latter example, like S. Chiara, Bra



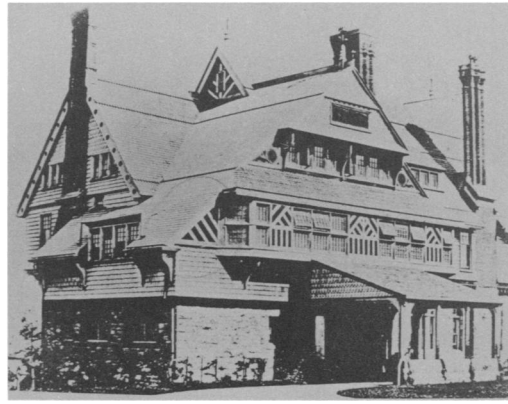
15-16



(15), a concave bottom contains convex top. Yet the rectangular top of the Castel Sant' Angelo (16) evolves from its circular base.



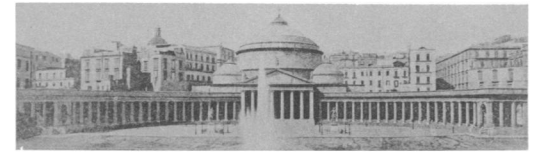
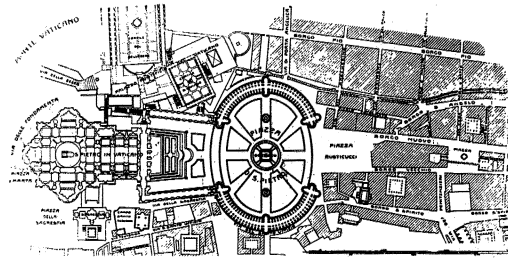
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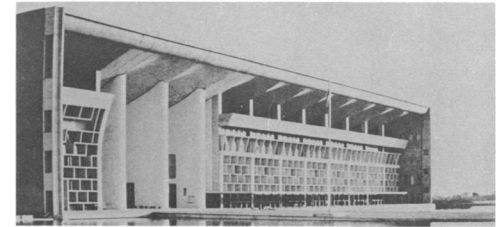
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20-21



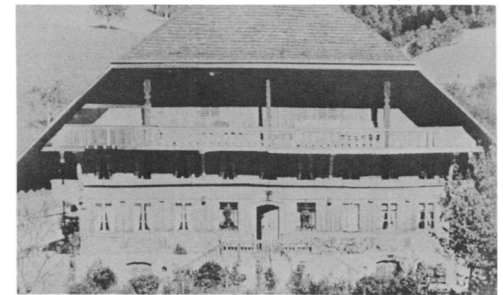
22-23



23-24



24-25



24

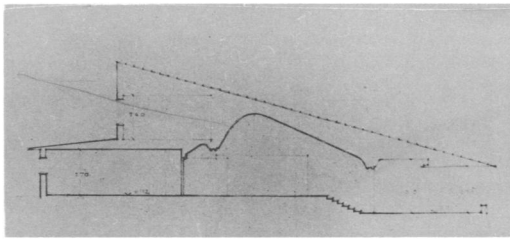
From the outside the space within a space can become the thing behind a thing. The contrasting giant-scaled clerestory of Wollaton Hall (17) reads as a thing behind a thing. In S. Maria della Pace (18) the superimposition of enclosing elements, successively convex, straight and then concave, become contrasting things behind things to work transitions between the outside and the inside. And the Romantic roof-scapes of

Richardson's Watts-Sherman House (19) and the multi-domed *trulli* of Puglia (20) contrast with the severe exterior perimeter of their lower walls.

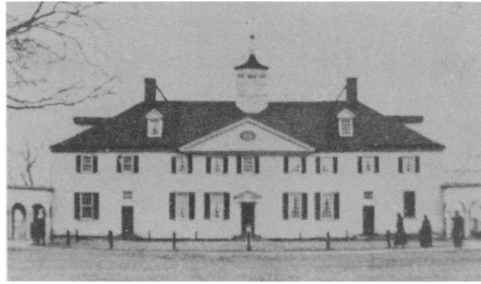
Besides working within and behind perimeters, crowded intricacies can occur outside them. St. Peter's colonnade (21) and the Piazza del

Plebescito's in Naples (22) exclude intricacies rather than contain them in order to achieve unity for their piazzas.

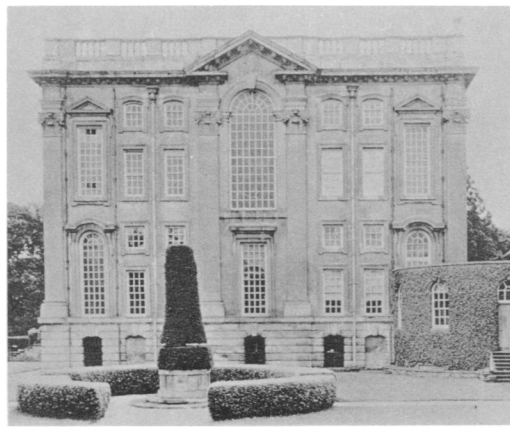
Le Corbusier's Villa Savoye exemplifies crowded intricacies within a rigid frame essentially in plan; the same thing can happen essentially in elevation as in his High Court at Chandigarh (23). Like the rear of McKim, Meade, and White's Low House at another scale (24), it expresses intricacies within a rigid façade. The severe roof and wall envelope of the house contain interiors with spatial variations of level and size expressed by varying window positions. The sheltering gable of the Emmentaler-type house in Switzerland (25)



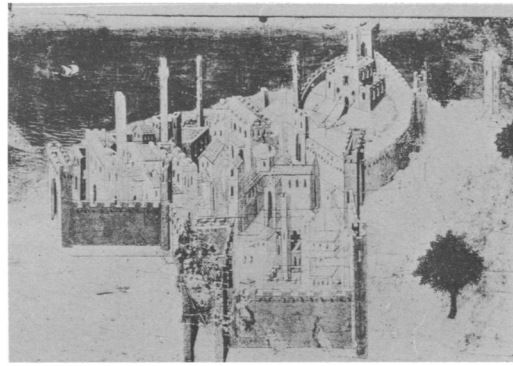
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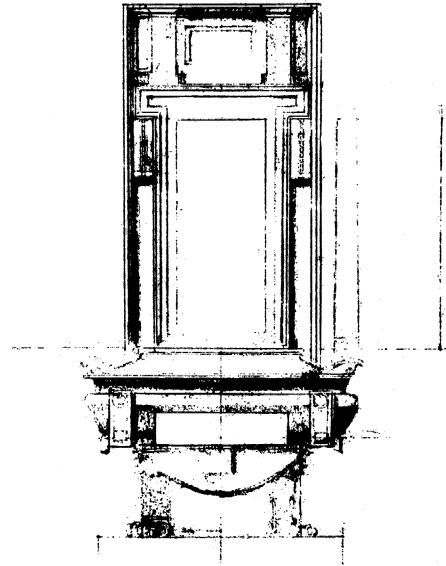
27-28



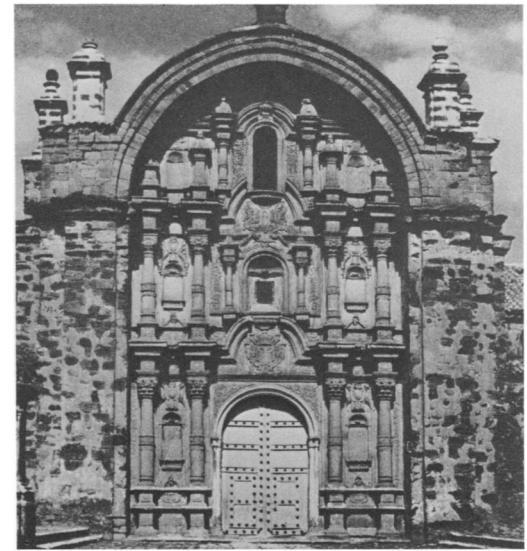
and the constant shed of Aalto's Maison Carré (26) similarly contradict their interior configurations below. And similar tensions in the rear façade of Mt. Vernon (27) result from the contrast of severe pedimented envelope and irregular window positions. The interior-motivated window positions in the side façade of Hawksmoor's Easton Neston (28) defy certain horizontal elements of its classical vocabulary and its rigid face.



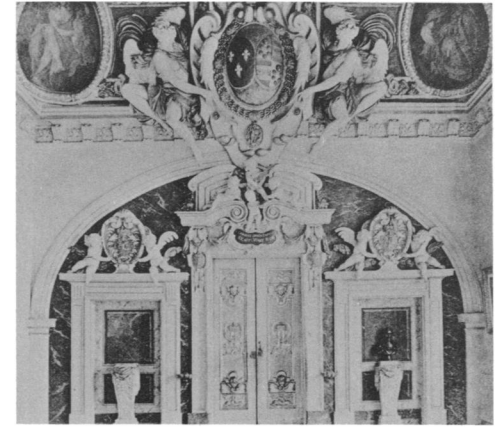
29-30



Crowded intricacy within a rigid frame is a pervasive idea. It can prevail from the concentric fortifications of the isolated hilltown (29) to the composition of a Michaelangelo niche (30). And

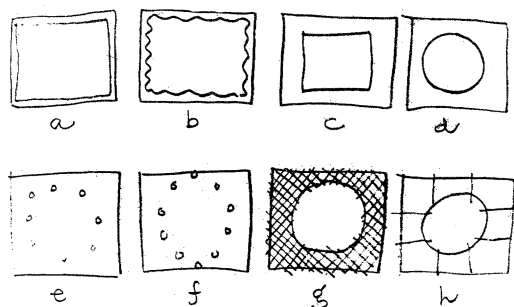


31-32



the façades of the parish church in Lampa, Spain (31), and the chapel entrance at Fontainebleau (32), more purely expressive architectural examples than those above, contain almost excessive pressures within their borders like a mannerist painting.

25



33-34



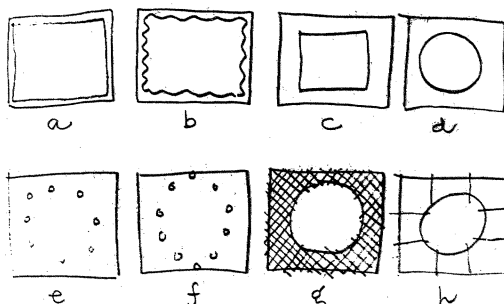
26

There is another important area of contradictions. Contradiction between the inside and the outside may manifest itself in a "lining" – that is, a space within a space analogous to its frame. Plan diagrams (33) illustrate that layers between the inside and the outside can be more or less contrasting in shape and position, pattern and scale.

Diagram (33a) is the simplest manifestation of the lining which is analogous and attached; in this case, change in inside material, as in furred and plastered walls or wainscoting, provides the contrast. Its very prevalence suggests its validity. The Byzantine mosaics inside the chapel of Galla Placidia represent a lining attached but contrasting in richness of texture, pattern, and color which effect the interior space indirectly (33b). The Renaissance interiors of pilasters and architraves, such as the anteroom of pilasters and architraves, such as the anteroom of Syon House (34) represent layers less attached in expression but contrasting to the outside, not in form and texture but subtly in scale. The lining becomes semidetached in Percier and Fontaines' curtained bedroom at Malmaison. This delicate layer parallels the coat lining, which accommodates the body within. The graduated series of symbolic

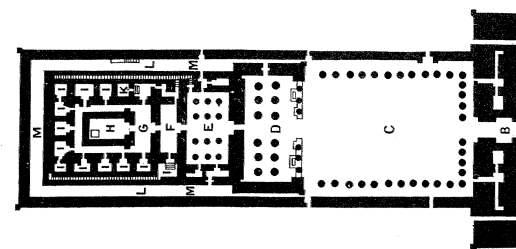


35-36



doors at Karnak (35) become multiple linings in relief similar to a characteristic idea of nests of dolls or eggs in toys. The doors within doors in Egypt, like the multiframed doors in Gothic porches, contrast with the multiple pediments of baroque openings, which alternate in shape from triangular to segmental.

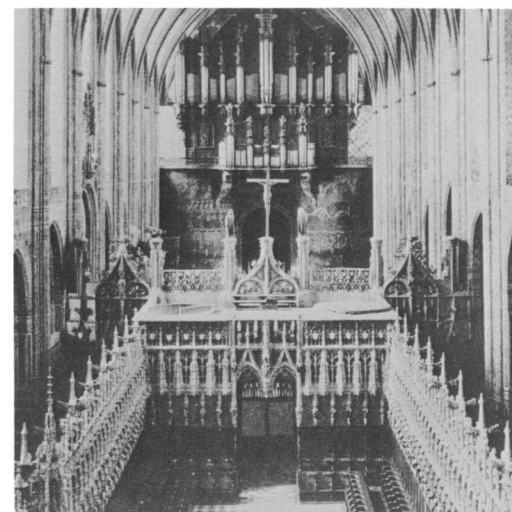
The graduated series of things in things (or enclosures within enclosures) that characterize the Egyptian temple carry out in space the motif of the multiframed doors at Karnak (36c). The



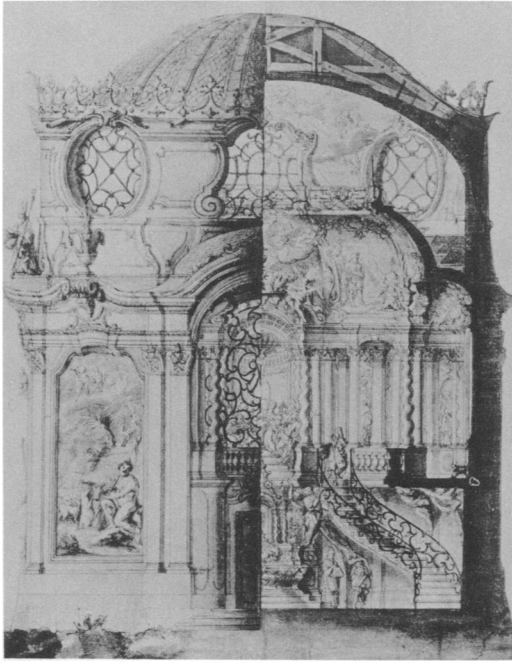
37-38



38-39



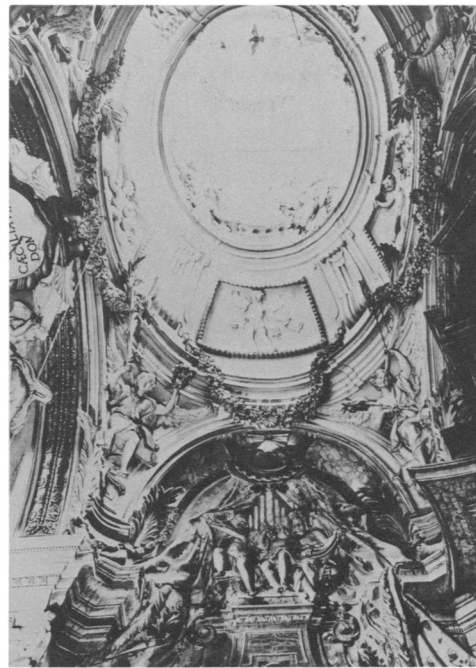
linings of walls at Edtu (37, 38) are analogous in shape, but detached in space. There, outer layers enhance the enclosed inner spaces and make them feel more protected as well as precious. They parallel the layers of fortifications in medieval castles. The same tensions between hovering layers occur in the enclosing sanctuary screens at Albi (39) and other cathedral choirs of



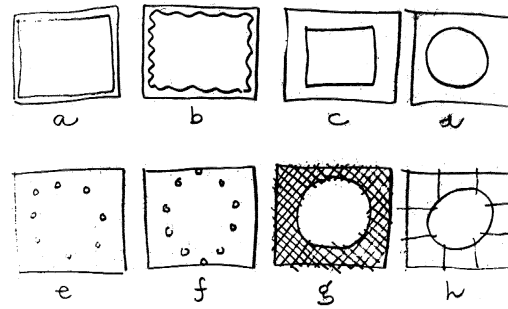
40-41



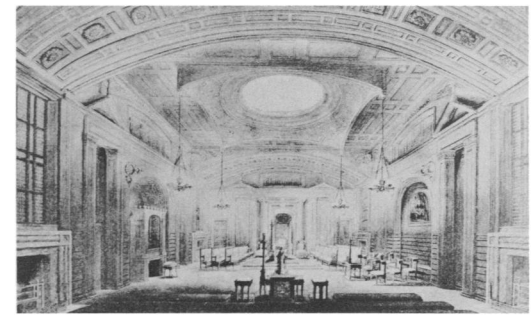
Catalonia and the Languedoc. The multiple baroque domes represent, in section, layers that are analogous but detached. Their oculi permit spaces beyond spaces. The partial inner dome of a project of the Assam Brothers in Munich (40) accommodates interior effects of light and space, and interior effects of scale and height. The illusionary expressions of layers of clouds in the frescoed dome of their church in the Abbey at Weltenburg (41) do the same things inside.



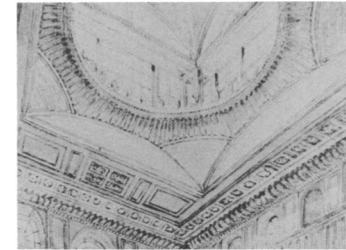
42-43



The multiple domes of the S. Cecilia Chapel in S. Carlo ai Catinari in Rome (42) are detached yet contrasting (43d). Beyond the *oval* oculus of



44-45



45-46



the lower dome you see a *rectangular* space flooded with light, which contains the sculptural quartet of musical angels. Beyond this zone floats, in turn, an even more brilliant *oval* lantern. Sir John Soane's characteristic juxtapositions of domes and lanterns, squinches and pendentives, varieties of geometric shapes and directions, vestigial and real, ornamental and structural (44-46), *imply* separation. Their resultant tensions expresses enclosure in the richest way through a multiplicity of varied layers. Armando Brazini's contemporary

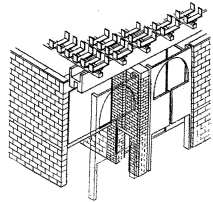
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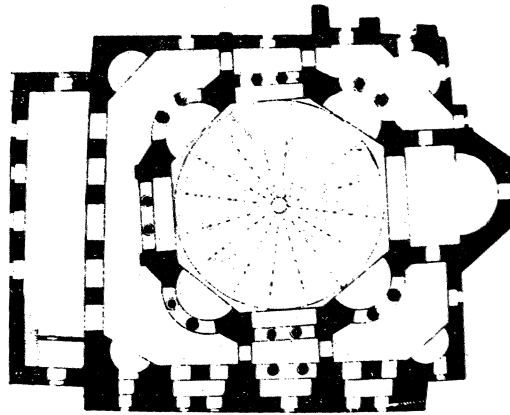
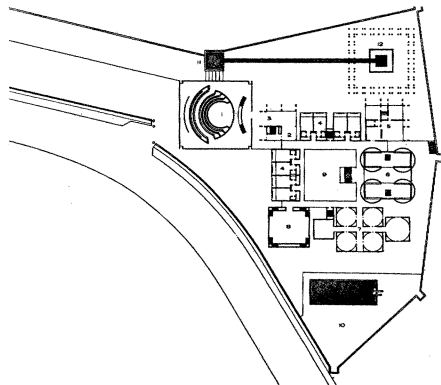
47-49



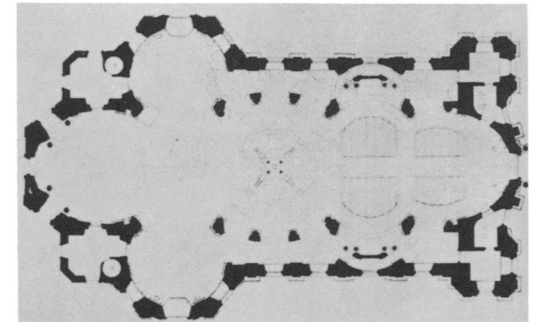
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49-50



51-52



53-54

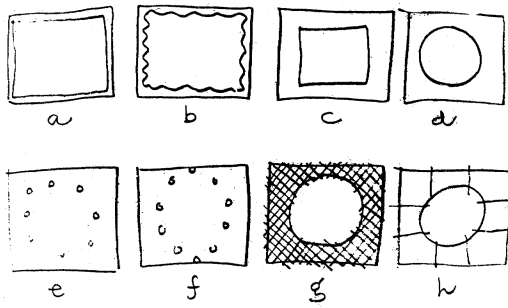


28

Neobaroque S. Maria in Parioli in Rome (47, 48) has a quasi-circular plan which contains an open Greek cross. This is reflected outside in the curved, distorted pediment at the front and the rectangular configurations of the cross, which penetrate above and beyond the curved lower walls. Louis Kahn, almost uniquely in modern architecture, employs detached layers on the outside. In the project for the Consulate in Luanda (49) he "wraps ruins around buildings," as he says, through the analogous screens that parallel the main wall of the building. The contrastingly shaped screens around the pavilions of his Salk Center Meeting House (50), with their contrasting, glassless apertures, counteract inside glare he says.

In the interiors of SS. Sergius and Bacchus (51) and of St. Stephen Walbrook (52), it is the series of columns that define the inner, detached, and contrasting layer of enclosure. These supports, reinforced by their domes above, imply the intraspatial relationships within. St. Stephen Walbrook is a square space that contains a round space tenuously connected by its squinchlike arches in section.

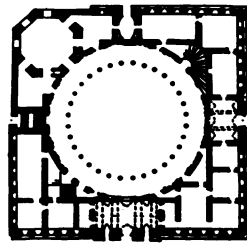
The piers, along with the domes, in *Vierzenheiligen* (53, 54) define curving interpenetrating spaces similarly within the rectangular and hexagonal walls of the perimeter. But their inner layers are less independent. They sometimes touch their frame in plan as well as section and become



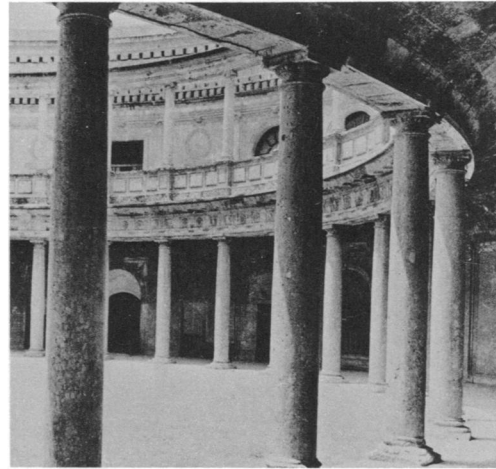
55-56



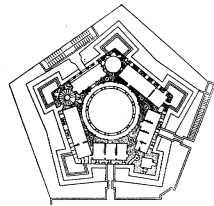
common with it (55f). The open lining inflects to touch its frame when it nears it. The sinuous inflections of nearing layers at Neresheim in Southern Germany (56) (inner circle and outer oval) is even more pronounced in plan and section. These intraspatial relationships are at once more complex and more ambiguous than St. Stephen Walbrook's.



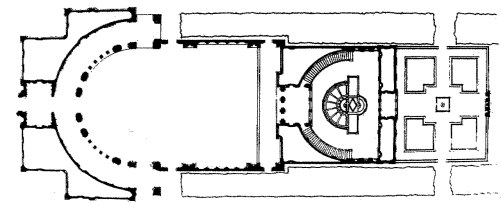
57a,b



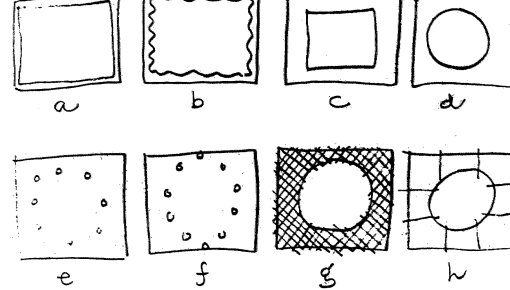
57b,58



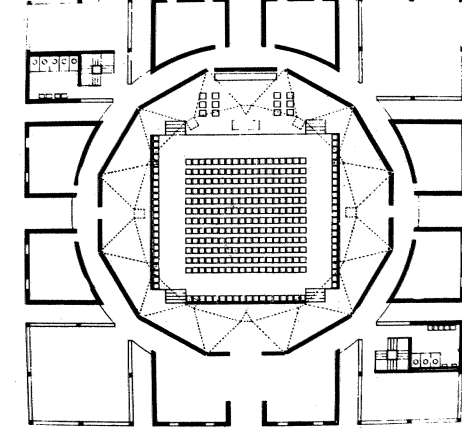
Detached linings leave spaces in between. But the architectural recognition of the in-between varies. The residual spaces are closed at Edfu and they almost dominate in volume the space they enclose. In Charles I's palace at Granada (57), the Villa Farnese at Caparola (58), or the Villa



59-60



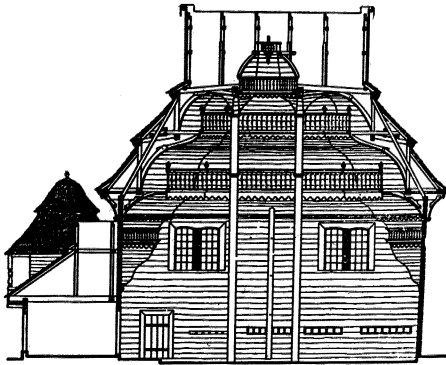
60-61



Giulia (59), the dominant-shaped courtyards make the primary space; the rooms within the contrasting perimeter become residual (60h). As in the preliminary scheme of Kahn's Unitarian Church in Rochester (61), the residual spaces are closed. The linings of columns and piers in SS. Sergius and Bacchus, St. Stephen Walbrook, Vierzenheiligen, and Neresheim define residual spaces that are open; they open into the dominant spaces, yet they are separate from them in varying degrees. The distinctions implied between dominant and residual spaces in the main hall of



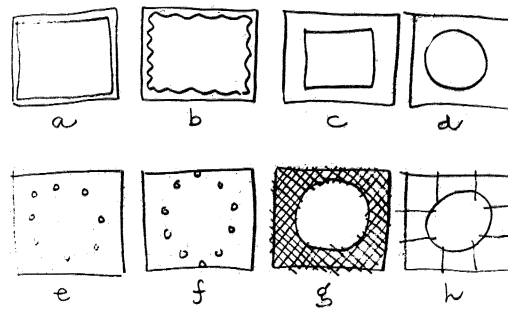
62-63



30 the Stupinigi Palace (62) are almost vestigial, for instance, while the closed vaulting of the wooden synagogues of 17th-century Poland (63) contain



64-65



closed-residual space in vertical section to suggest masonry vaulting. The complex oculus and other openings of the inner dome in S. Chiara, Bra (64), define residual space that is open in order to elaborate space and manipulate light.

Residual space that is open might be called open *poché*. Louis Kahn's "servant space," which sometimes harbors mechanical equipment, and the *poché* in the plastic walls of Roman and Baroque architecture (65g) are alternative means of accommodating an inside different from the outside. Aldo van Eyck describes "in-between

1. Aldo van Eyck, from "Dutch Forum on Children's Home," *Architectural Design*, XXXII. (December 1962) p. 602.

space": "Architecture should be conceived of as a configuration of intermediary places clearly defined. This does not imply continual transition or endless postponement with respect to place and occasion. On the contrary, it implies a break away from the contemporary concept (call it sickness) of spatial continuity and the tendency to erase every articulation between spaces, i.e. between outside and inside, between one space and another (between one reality and another). Instead the transition must be articulated by means of defined in-between places which induce simultaneous awareness of what is significant on either side. An in-between space in this sense provides the common ground where conflicting polarities can again become twin phenomena."¹ And I refer to Louis Kahn's comment: "a building should have bad spaces as well as good spaces." The idea of residual space, with its manifestations of qualification, contrast, and tension, might be one interpretation of this enigmatic remark.

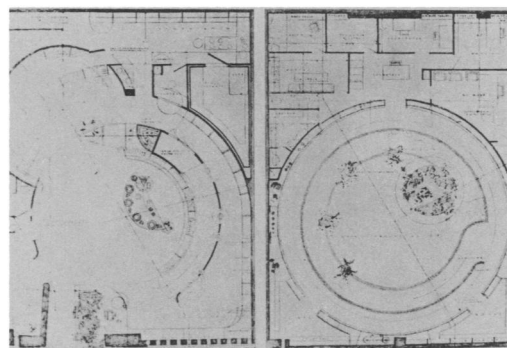
The analogous lining, like the phenomenon of crowded intricacies in a rigid frame, is rare in our architecture. With some significant exceptions in the work of Le Corbusier and Kahn, modern architecture has tended to reject these spatial ideas. The Mies or early Johnson "utility core" is not relevant because it becomes a passive accent in a dominant open space, rather than an active parallel to another perimeter. Enclosed interior space does not admit modern architecture's requirement of a unity and continuity of all space: "la nouvelle architecture est ouverte", van Doesburg. Nor do layers in depth, especially with contrapuntal juxtapositions, satisfy its requirements of economic and unequivocal relationships of forms and materials. And crowded intricacy within rigid boundaries that are not an open framework contradicts the modern tenet of a buildings' growing from the inside out. Masonry walls are



66

7. Gyorgy Kepes, *The New Landscape in Art and Science* (Chicago, 1956), p. 326.

67



8. Aldo van Eyck, from "Dutch Forum on Children's Home," *Architectural Design*, xxxii (December 1962) p. 600.

2. Frank Lloyd Wright, *Modern Architecture* (Princeton, 1931), front end paper.
3. Horatio Greenough, from "Form and Function," *Roots of Contemporary American Architecture*, Lewis Mumford (New York, 1959), p. 37.
4. Henry David Thoreau, *Walden and Other Writings* (New York, 1940), p. 42.
5. Louis Sullivan, *Kindergarten Chats* (Place, 1934), p. 114.
6. Le Corbusier, *Towards a New Architecture* (London, 1927), p. 11.

often made with cavities so that the material can be the same inside and out. Ornamental borders are unheard of.

What are the justifications for enclosure and for the inside's being different from the outside? When Wright expressed his dictum: "an organic form grows its structure out of conditions as a plant grows out of the soil, both unfold similarly from within,"² he had the backing of a series of American predecessors. Many advocated what was at the moment a healthy thing, a needed battle cry:

Greenough: "Instead of forcing the functions of every sort of building into one general form, adopting an outward shape for the sake of the eyes or association, without references to the inner distribution, let us begin from the heart as a nucleus and work outward."³

Thoreau: "What of architectural beauty I now see, I know has grown gradually from within outward, out of the necessities and character of the indweller."⁴

Sullivan: "The architect must cause a building to grow naturally, logically and practically out of its conditions. . . . Outward appearance should mirror inner purpose."⁵

Even Le Corbusier has written: "plan proceeds from within to without."⁶

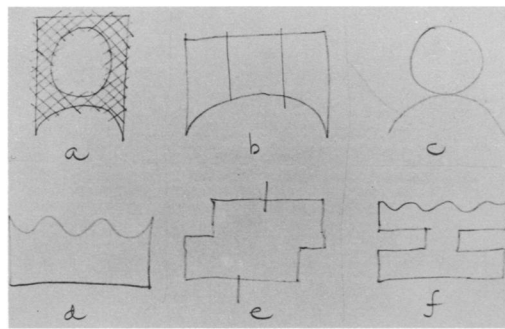
But Wright's biological analogy limits itself, because the development of a plan is influenced into particular distortions by the particular forces of its environment as well as its genetic order of growth. D'Arcy Thompson saw form as "a record of development in environment." The inherently rectangular order of structure and space of Aalto's Apartment House in Bremen (66), yields, through distortion, to the inner needs for light and space toward the south, like the growth of a flower toward the sun. But for Wright, generally, the exterior and interior space of his invariably isolated buildings were continuous, and as an urbanophobe, his environment, if specifically regional, was not as particularly limiting, spatially, as an urban context. In fact, I believe Wright refused to recognize the setting that was not analogous or sympathetic to the interior function: see his synagogue against its suburban setting in Elkins Park, outside Philadelphia, or the Guggenheim Museum in the cliff of Fifth Avenue. However, the dominating and excluding Johnson Wax Building is a gesture perhaps toward its indifferent urban environment.

But contrast or even conflict between the exterior and interior forces, particular and general, private and public, exists on many levels. Kepes has said: "Every phenomenon – a physical object, an organic form, a feeling, a thought, our group life owes its shape and character to the duel between opposing tendencies; a physical configuration is a product of the duel between native constitution and outside environment."⁷

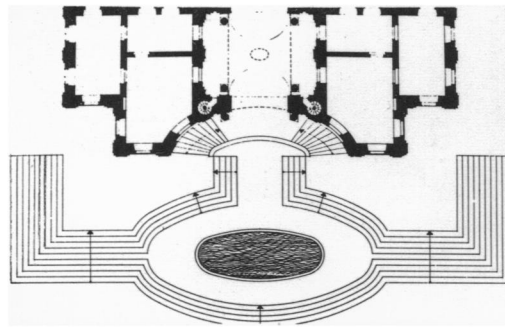
This interplay has always been vivid in the concentrations of the urban environment. Wright's Morris Store (67) is another of the Master's exceptions that reinforce a rule. Its vivid contradictions between the inside and the outside – between the particular private and the general

public functions – make it a traditional urban building rare in modern architecture. Its validity is recognized in Aldo van Eyck's plea: "Planning on whatever scale level should provide a framework – to set the stage as it were – for the twinphenomenon of the individual and the collective without resorting to arbitrary accentuation of either one at the expense of the other."⁸

31



68-69

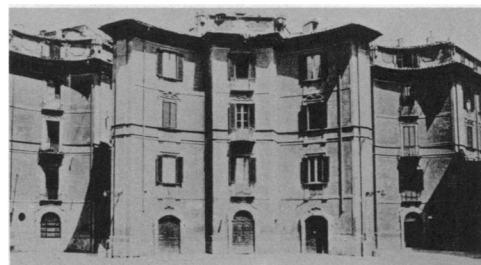


69-70

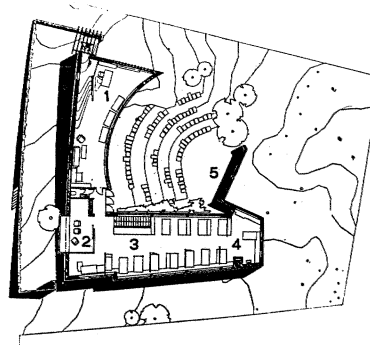
32 We can illustrate contradictory interplays between inside and outside spatial needs by analyzing some examples where the front and the back contrast. As with the lining, I shall refer to six general cases shown diagrammatically in figure 68. The concave façade in the Baroque Church accommodates specific spatial needs: the outside ones different from the interior. The concave exterior, at odds with the church's essential concave spatial function inside, acknowledges a contrasting exterior need for a spatial pause in the street or piazza façade; up front the outside space is more important. By means of its plastic form or *poché*, the church was designed then, from the inside-out in back, and the outside-in up front (68a). The contrasting use of baroque curves in the plans of two pavilions by Fischer von Erlach illustrate dominant space that is outside in one and inside in the other (69,70).



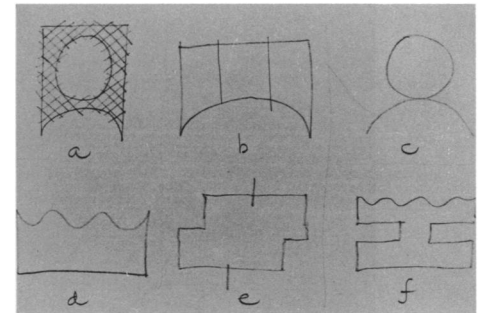
71-72



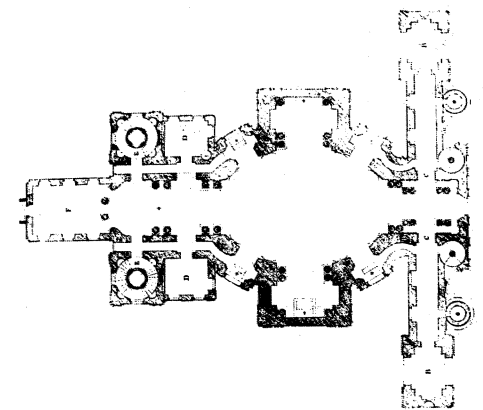
72-73



The concave façade, which is on the diagonal in the house called "Grey Walls" by Lutyens (71), accommodates an entrance court related to vehicular turning radii, and it concludes the vista of the approach. "Grey Walls" is a rural Piazza S. Ignazio (72) in space if not in function. Aalto's studio at Munkkiniemi (73) becomes an outdoor amphitheatre as well, by means of its

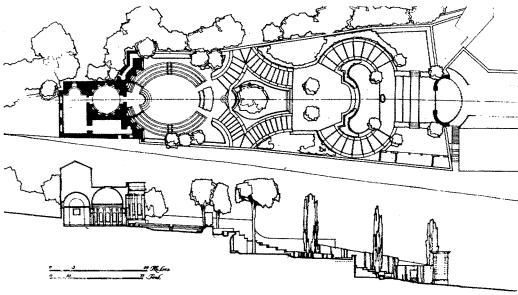


74-75



concave wall. These later examples produce residual spaces inside (74b).

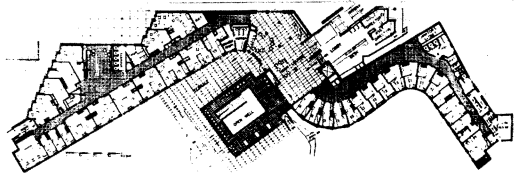
Fischer von Erlach's Karlskirche (75) accomplishes the same thing through the valid false-façade rather than through *poché* (74c).



76-77



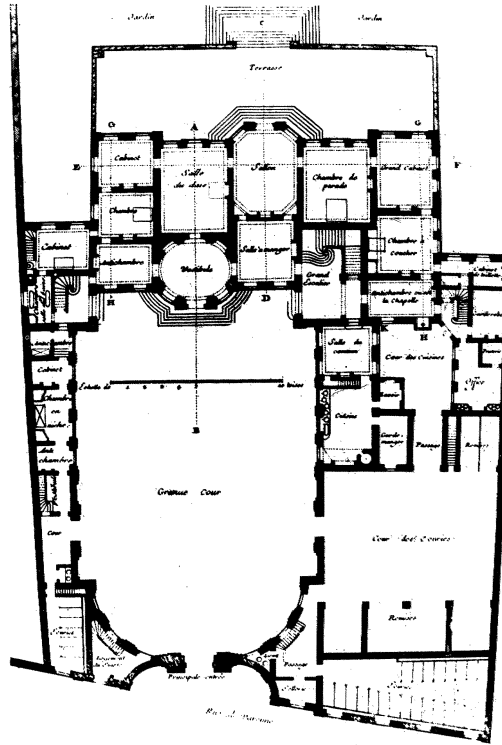
77-78



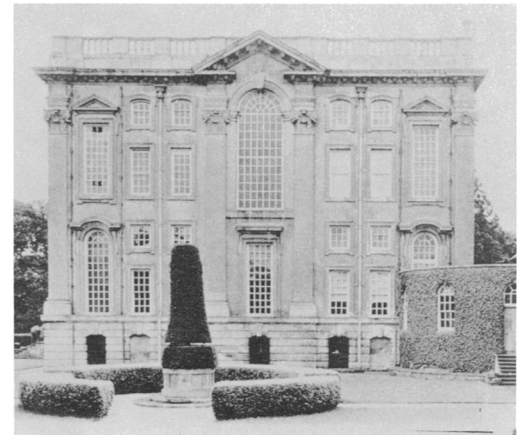
The façade of the pavilion in the garden of the Arcadian Academy in Rome (76), even more contradictorily, contrasts the interior behind it through its concave shape. The contradiction between façade and rear in the Sanctuary of Sarno (77) occurs in scale and style.

In the Baroque church the inside is different from the outside, but the back is also different from the front. American architecture, and especially modern architecture, with its antipathy to the "false front," have emphasized the free-standing independent building even in urban planning. Aalto's dormitory at M.I.T. (78) is exceptional. The curving front on the river, along with the fenestration and materials, contrasts with the rectangularity of the rear; exterior as well as interior forces of use and space and structure vary back and front. Even the free-standing building becomes a resultant – a fragment of a greater exterior spatial whole. Our free-standing buildings, except for some surface treatment and screens which act to de-emphasize the spatial enclosure or recognize orientation differences, seldom differ front and back for exterior spatial reasons. To the eighteenth century, however, this was a conventional idea: the ingenious double-axis

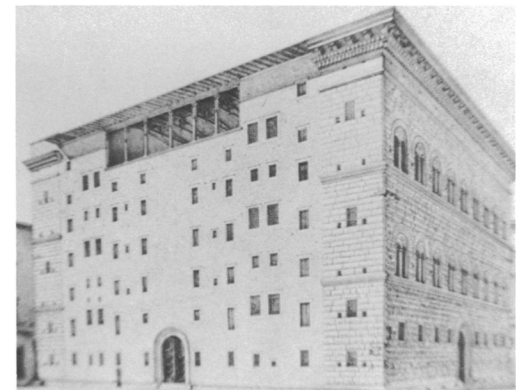
79



hotel in Paris (79), even in its originally more open setting, accommodated outside spaces differently balanced front and back.



80-81



With similar justification, Hawksmoor's Easton Neston (80) yields a tense disunity between front and side. The discontinuous elevation on the intimate garden side away from the long axis accommodates varieties of spaces and levels inside and necessities of scale outside. The side elevation of the Strozzi Palace (81) anticipates its hidden position on a side alley.

I tend to design from the outside in as well as the inside out. The necessary tensions help make architecture. Since the inside is different from the outside, the point of change which is the wall is an architectural event. Architecture occurs at the meeting of interior and exterior forces of use and space. These interior and environmental forces are both general and particular, generic and circumstantial. Architecture, as the wall between the inside and outside, becomes the spatial record of this resolution and its drama.

33



34

HEADQUARTERS BUILDING,
NORTH PENN VISITING NURSE ASSOCIATION
Ambler, Pennsylvania
Venturi and Short
1961

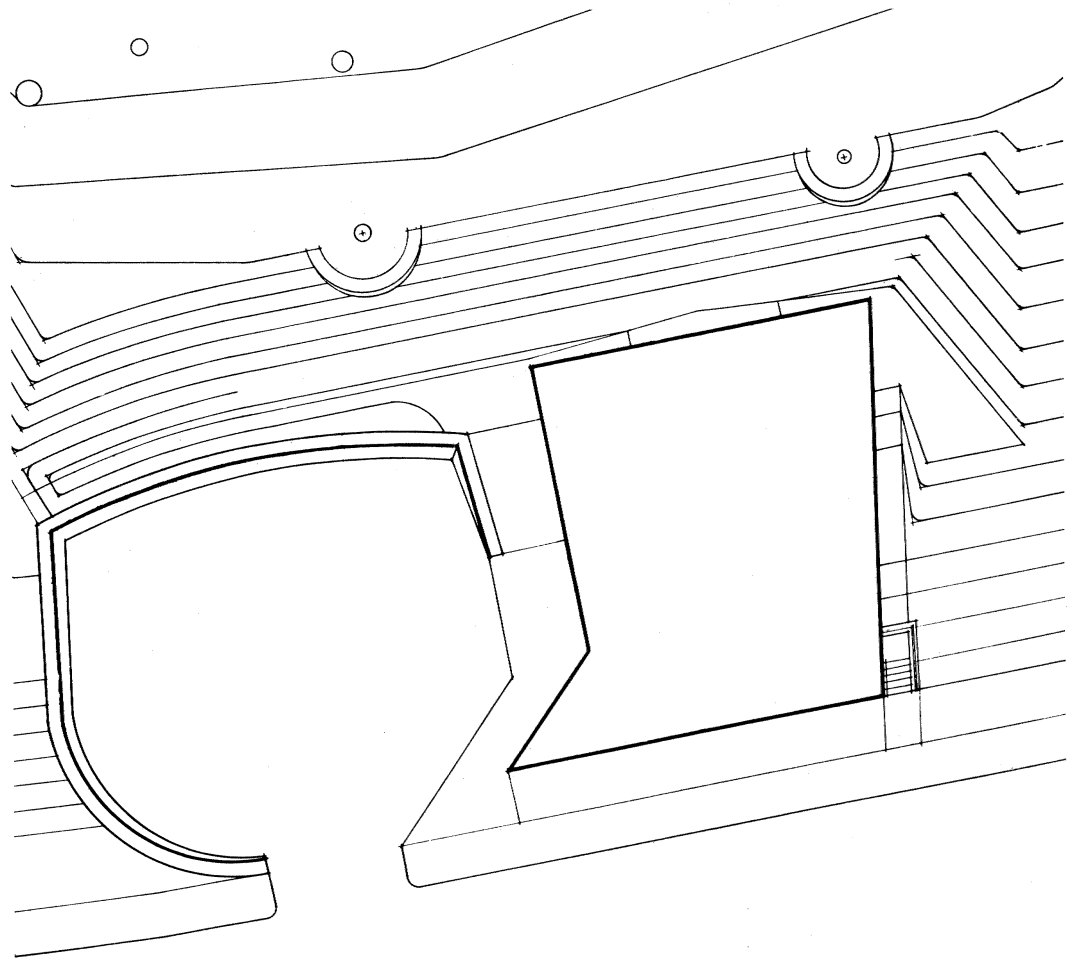
Economy dictated a small building with conventional construction. Context suggested a bold scale and a simple form to compensate for the buildings around. The program dictated a complex inside, however, with a variety of spaces and special storage accommodations. Level parking for five staff cars on the steeply sloping site necessitated a walled auto court up front. A pedestrian entrance with a minimum of outside steps similarly dictated a location immediately along the street.

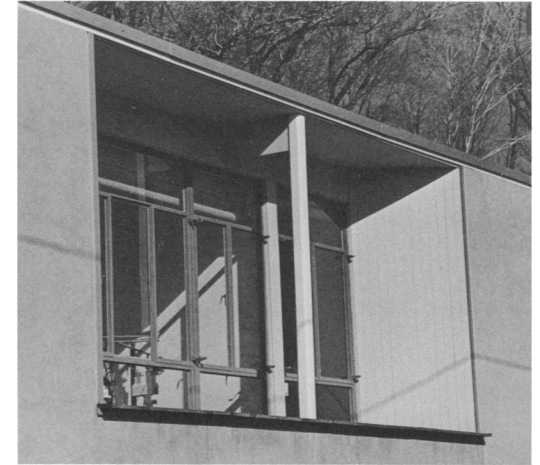
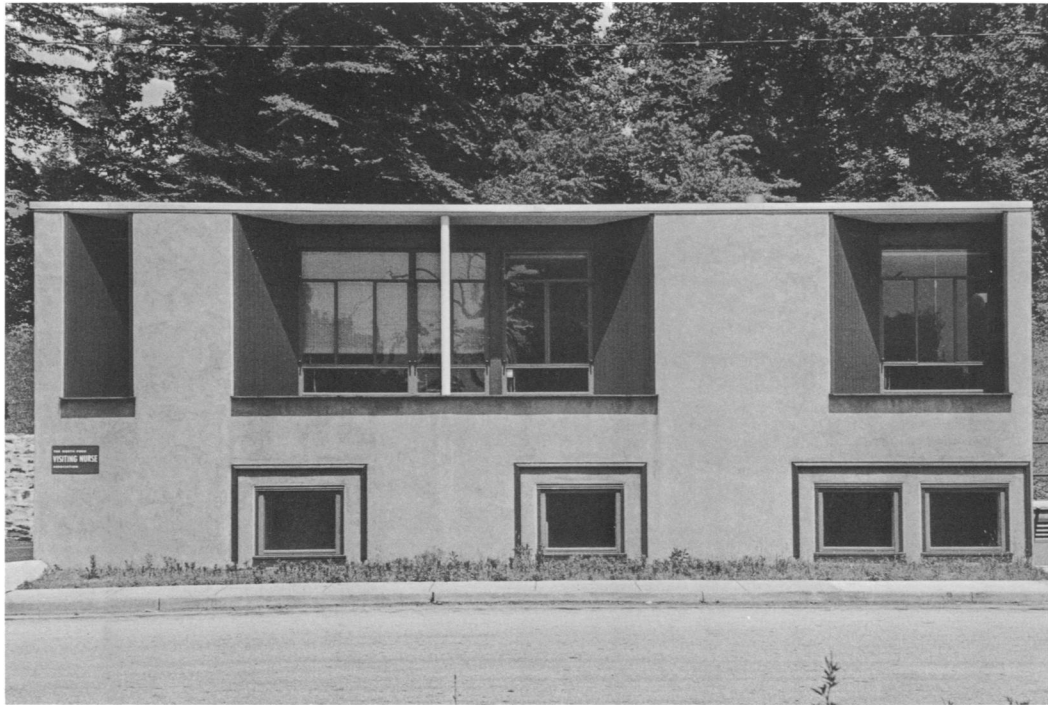
The building is a distorted box, which is at once simple and complex. Because they are adjacent and similar in area, the court and the building set up a duality. The prow on the building becomes an inflection to resolve the duality; yet this distortion simultaneously enforces duality by strengthening – that is, by complementing – the opposite curved wall and making more symmetrical the otherwise weaker parking court. The prow is designed from the outside more as sculpture than architecture, because the outside spatial forces dominate the interior forces (merely the dentist's darkroom in this case). Distortion also works in the open side of the duality: the slight curve of the retaining wall of the essentially rectangular court acknowledges and resists the pressure in the grade behind. The building box is distorted further by the east wall's parallelism to the circumstantial property line on this half-urban site. The surface of this originally plain box is distorted as well as its shape. The windows on the front eat into it to provide integral overhangs toward the south. They also work integrally with the interior storage cabinets along that wall parallel to the roof framing.

By being sometimes coupled as well as set back the indentations become large and few, and increase the scale of the small building. The lower windows'

scale is increased by the device of an extended frame: in this case, an applied wood molding. The complex positioning of the windows and openings of this façade also counteracts the simplicity of the box. They are not random, but rather an originally regular series distorted by interior complexities and circumstances.

The entrance on the court side at an intermediate floor level is similarly complex in composition and bold in scale. It is made up almost equally of rectangular, diagonal, and segmental elements, juxtaposed in a manner after the Porta Pia's *portone*. The rectangularity of the opening results from the over-all block and plank structure of the building. The arch derives in contrast – not from the nature of the materials and structure of its wood frame, but from its symbolism as entrance.





Furthermore, and more importantly, as a circumstantial exception to the general order of the composition, it becomes a focus. The diagonal posts are similarly eventful expedencies: they shore up the center beam, which supports the again exceptional span of the roof planks. These posts contrast with the vertical post – more analagous to the whole composition of the building – in the large window opening in the front. The grand opening of the arch, appropriate in scale for a civic building, is juxtaposed with the man-scaled doors, which operate under shelter. Here there is juxtaposition of scales as well as shapes.

I have mentioned the program complexities of the interior. A hint of the storage intricacies is confirmed in the front windows. Another manifestation is the diagonal in the plan of the hall – another expedient exception, which accommodates the program complexities squeezed inside their rigid frame.

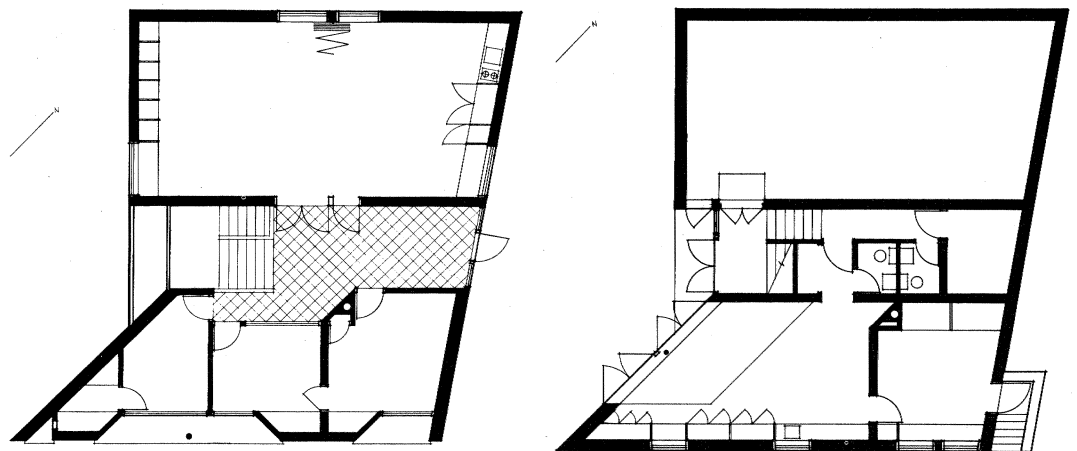
Its impure floor and roof structure is similarly accommodating to the bearing walls of the rigid perimeter. The first floor front is a two-way slab to accommodate the irregular interior bearing walls. Steel and wood joists for the floors and roof otherwise run variously parallel with the walls containing window storage combinations. Here, as in the entrance openings, the span is made with wood planks that permit opening, and windows to reach the thin cornice line and make the box more abstract. I have already mentioned the expedient post, vertical or diagonal, where these surface spans become exceptionally long.

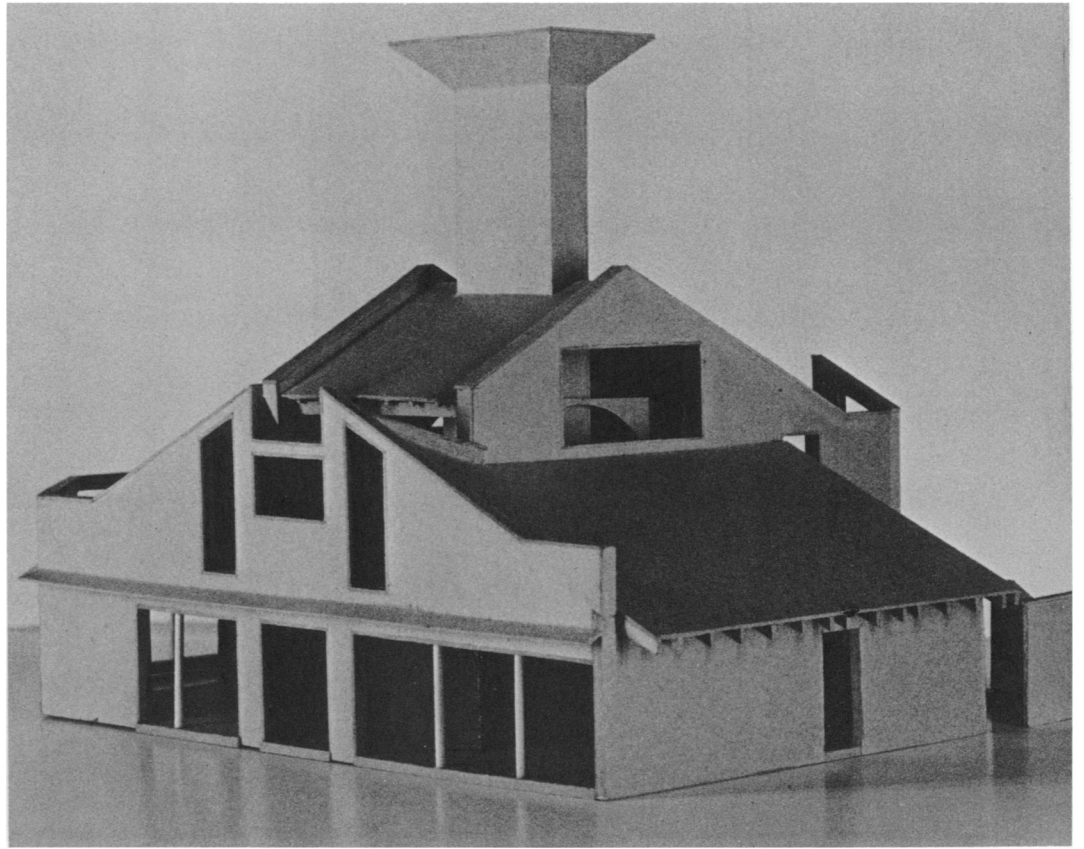
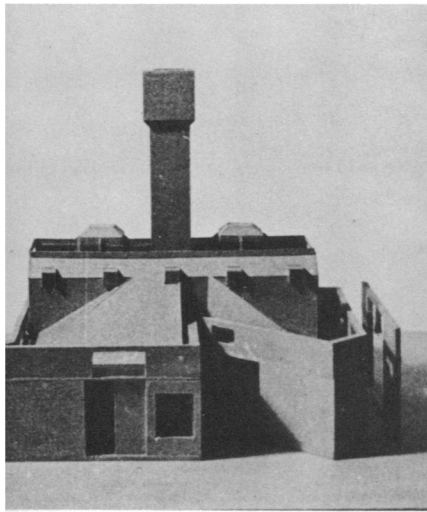
To emphasize thinness of surface and contradict the plasticity of the box, the stucco surface is detailed with a minimum of corner-turnings.

I have “destroyed the box” – not through spatial continuities, but through circumstantial distortions.



37

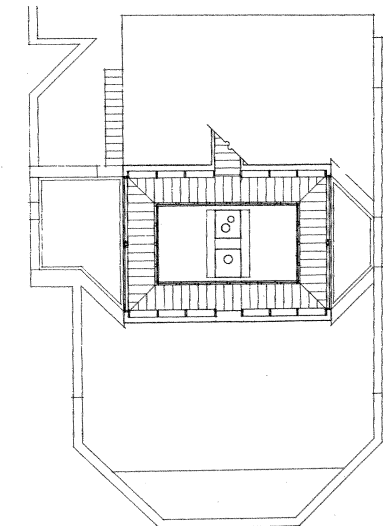
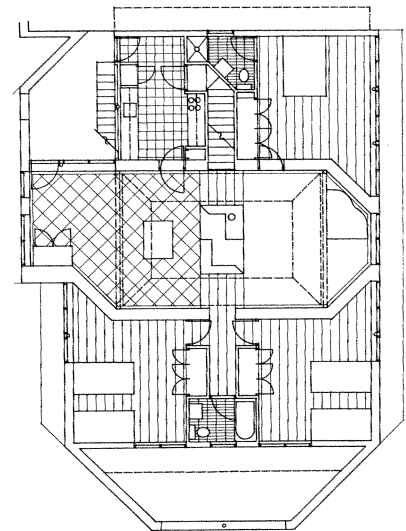
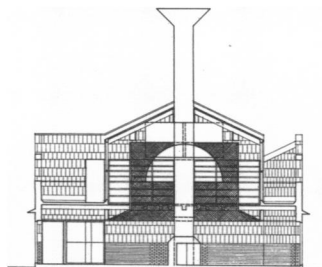
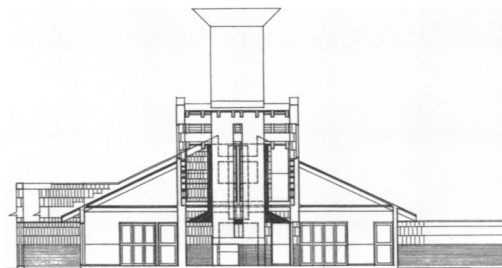




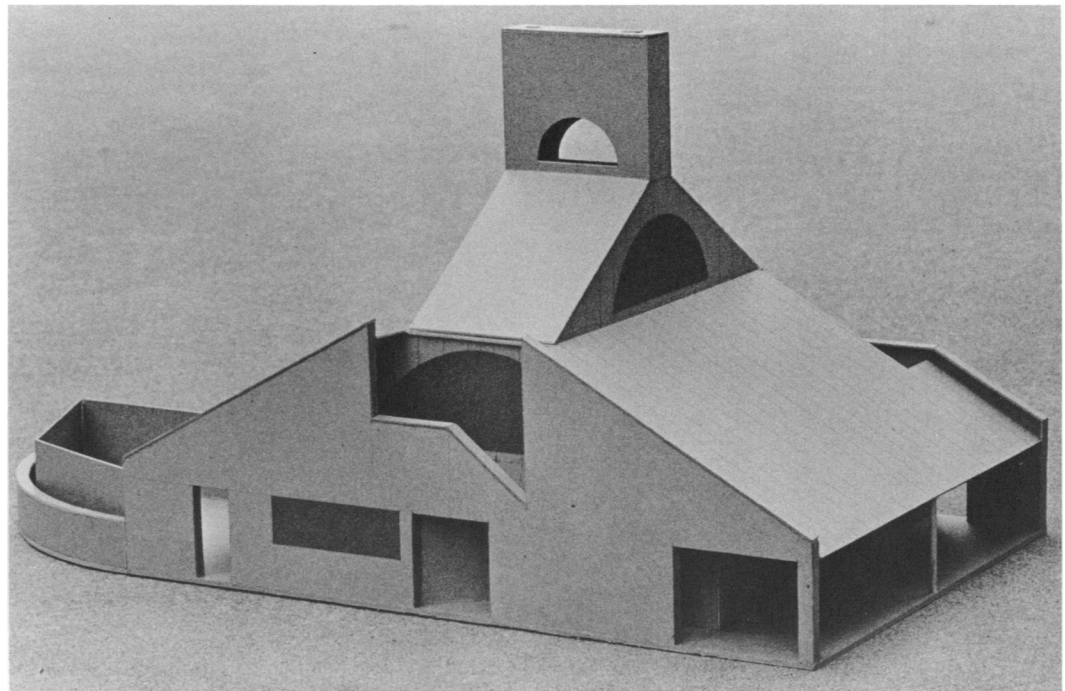
38

HOUSE FOR MRS. ROBERT VENTURI
Chestnut Hill, Pennsylvania
Earlier versions
 1959-62

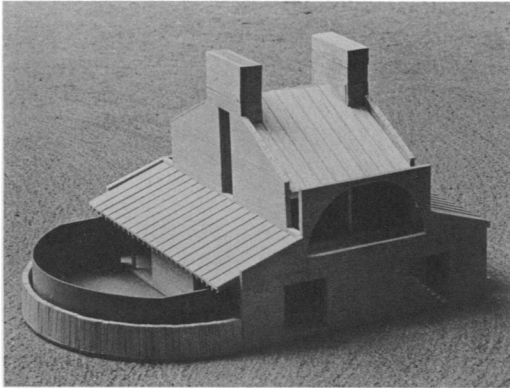
The earlier projects, listed chronologically as 1, 2, 3, and 4, differ from the final scheme in being more strictly pavilions enclosed by layers with complex roof protrusions beyond parapets and with more general interior spaces less distorted by particular complex, inner circumstantial configurations.



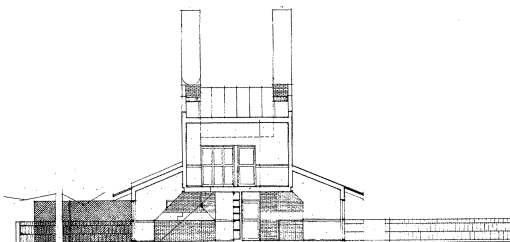
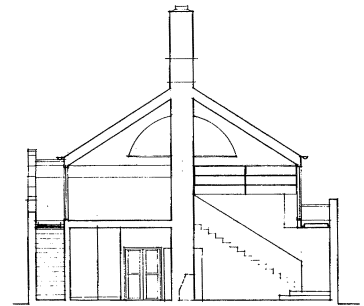
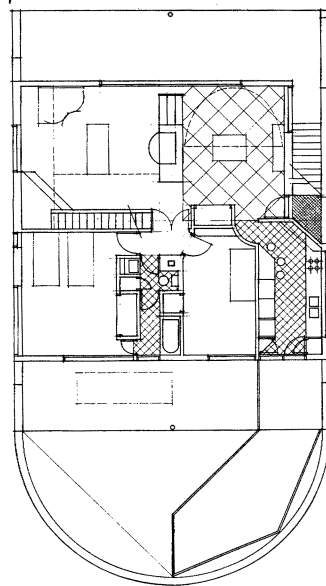
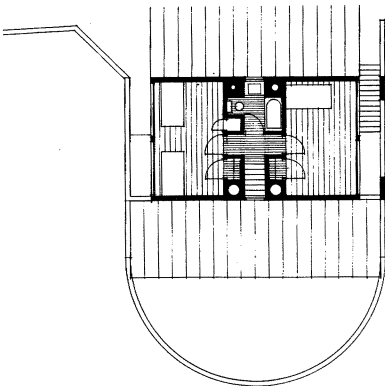
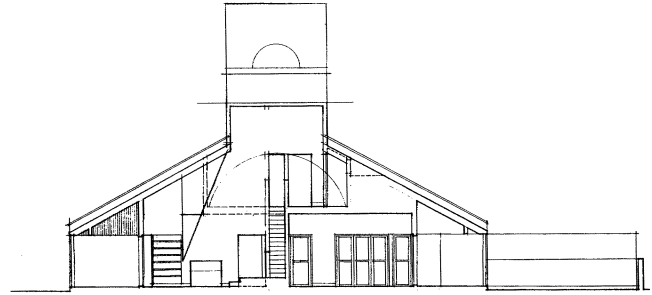
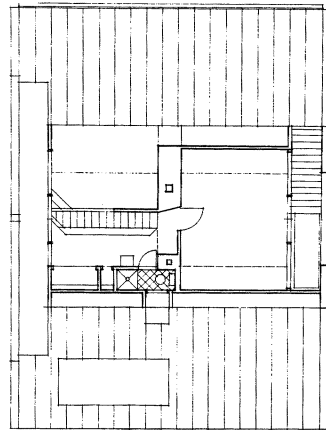
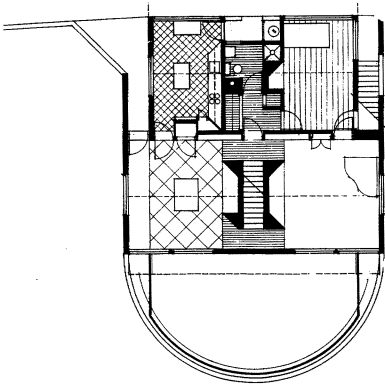
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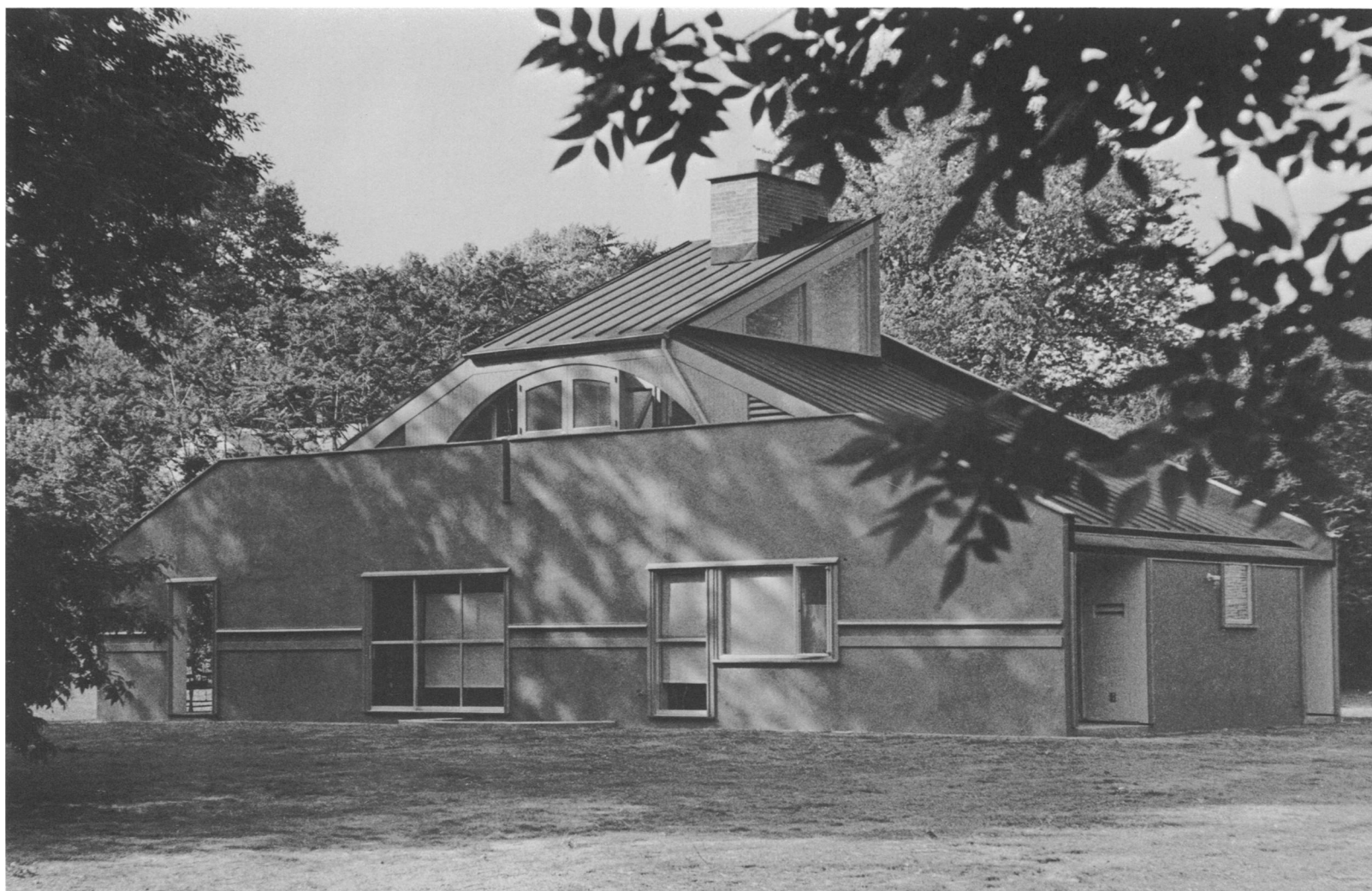


3



39





HOUSE FOR MRS. ROBERT VENTURI
Chestnut Hill, Pennsylvania
Venturi and Short
 1962-64

This small house has the following characteristics in its composition:

It contains things within things in plan: an interior multiplicity distorted to fit its rigid bounds and forced to accommodate its exterior symmetry.

It contains things behind things in elevation: an interior multiplicity appropriate for a house protruding beyond the parapets of its two parallel walls, and manifesting itself in the irregular positions of its windows.

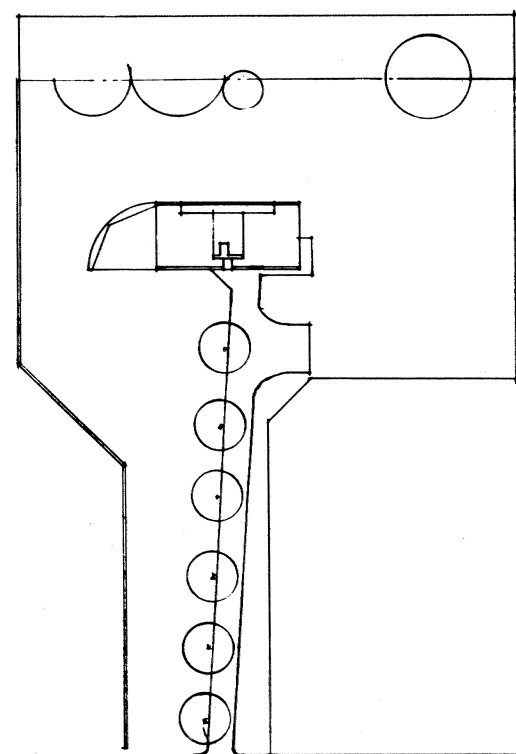
The front is different from the back: the complex roof configurations are continuous in the back; they form violent juxtapositions in the front elevation.

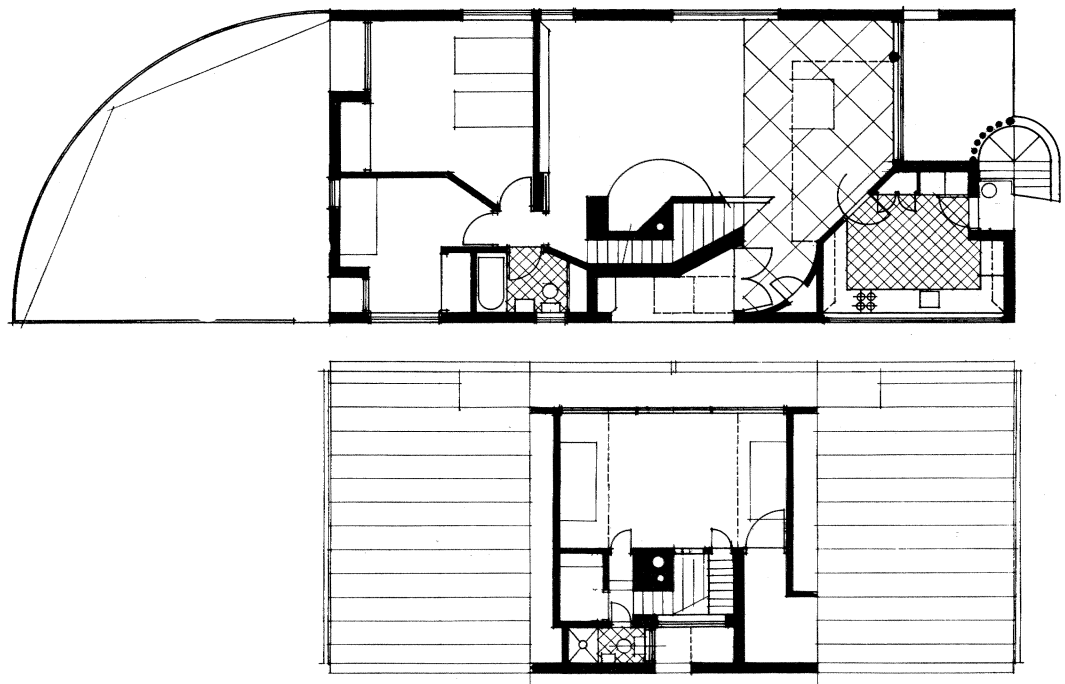
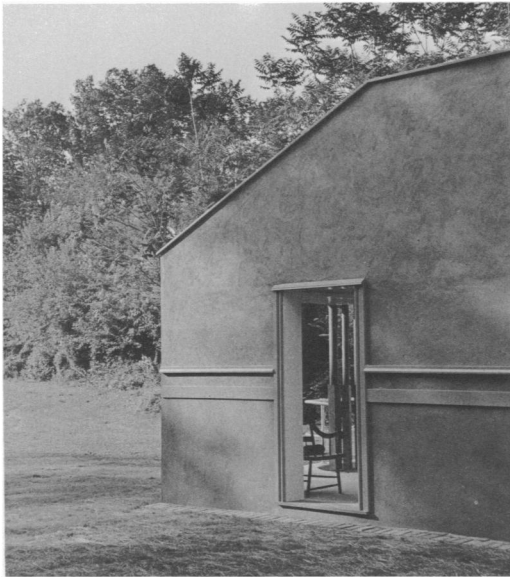
Its interior partitions are essentially rectangular in their relationships, but they compromise into diagonals and segments at difficult places of circulation and entry. The composition inside and out employs what I would call almost equal combinations of these elements.

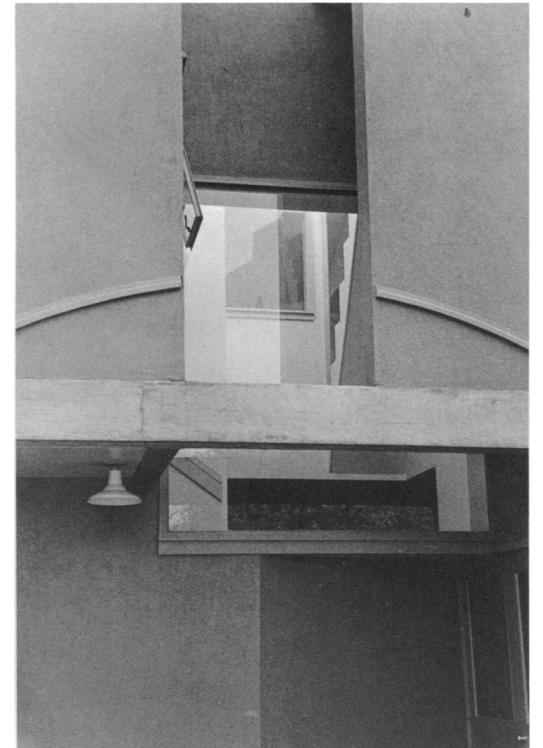
The stairway to the upper bedroom is a residual space formed by the more important and specific spatial needs around it on each side.

The segmental wood-trim pediment is an ornament that contrasts with the diagonal roof configurations and increases the scale of the entrance and makes the stucco wall less plastic.

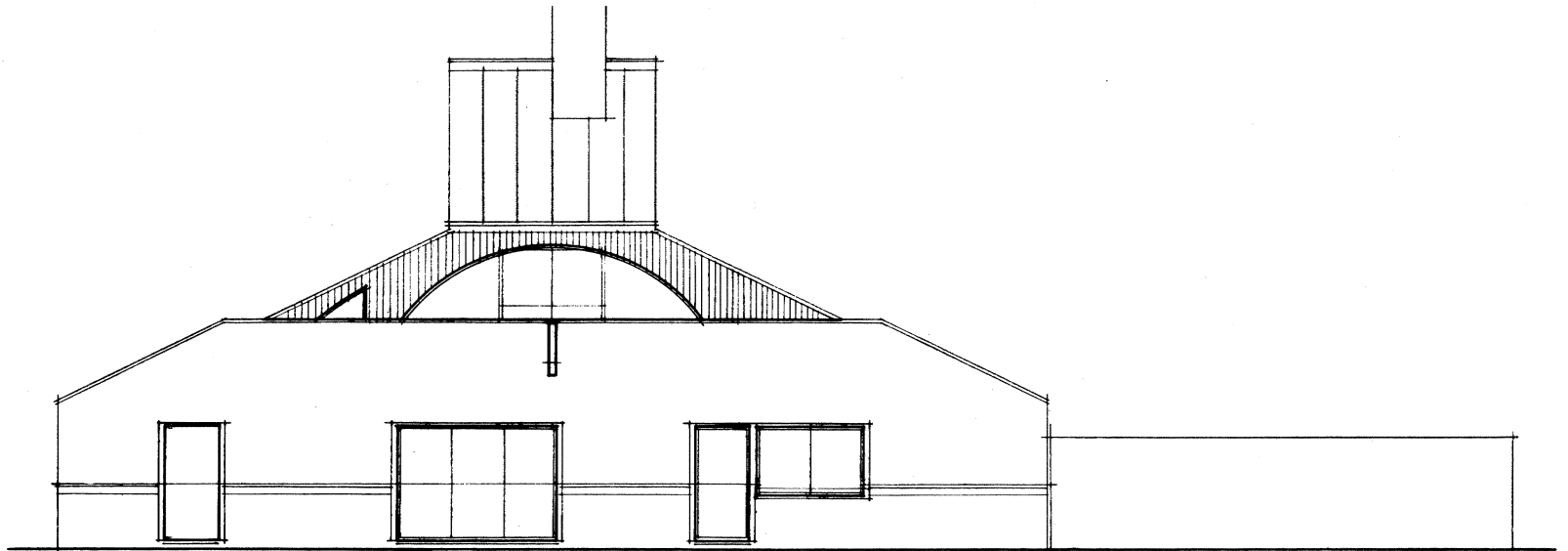
For the sake of economy, the plan minimizes purely circulation space.





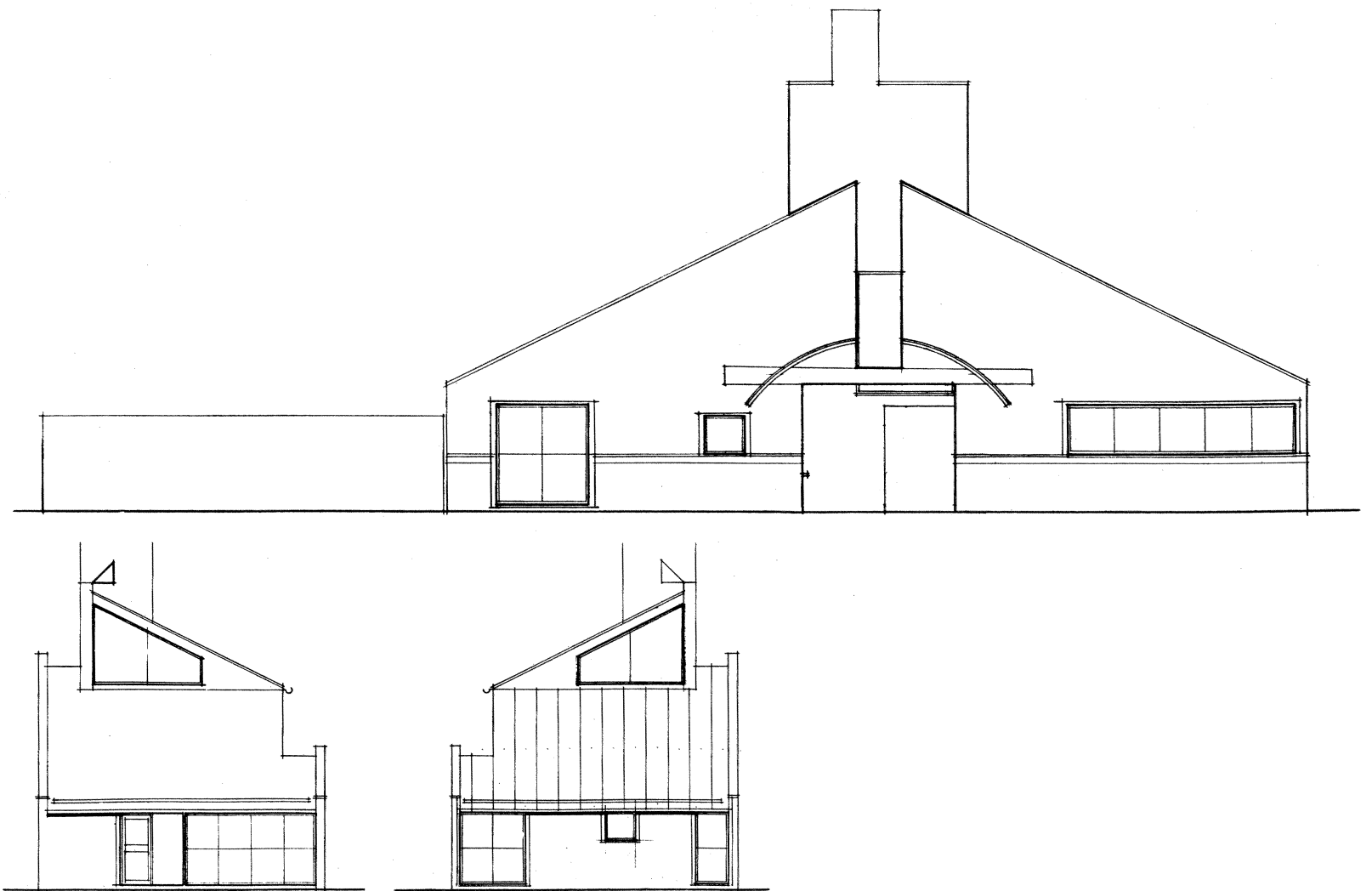


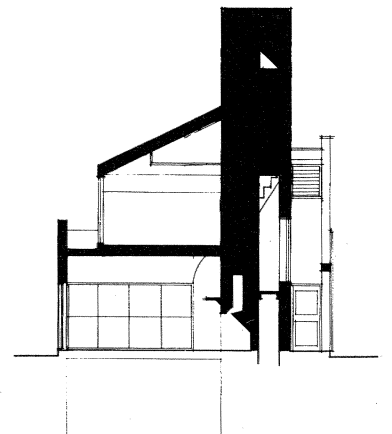
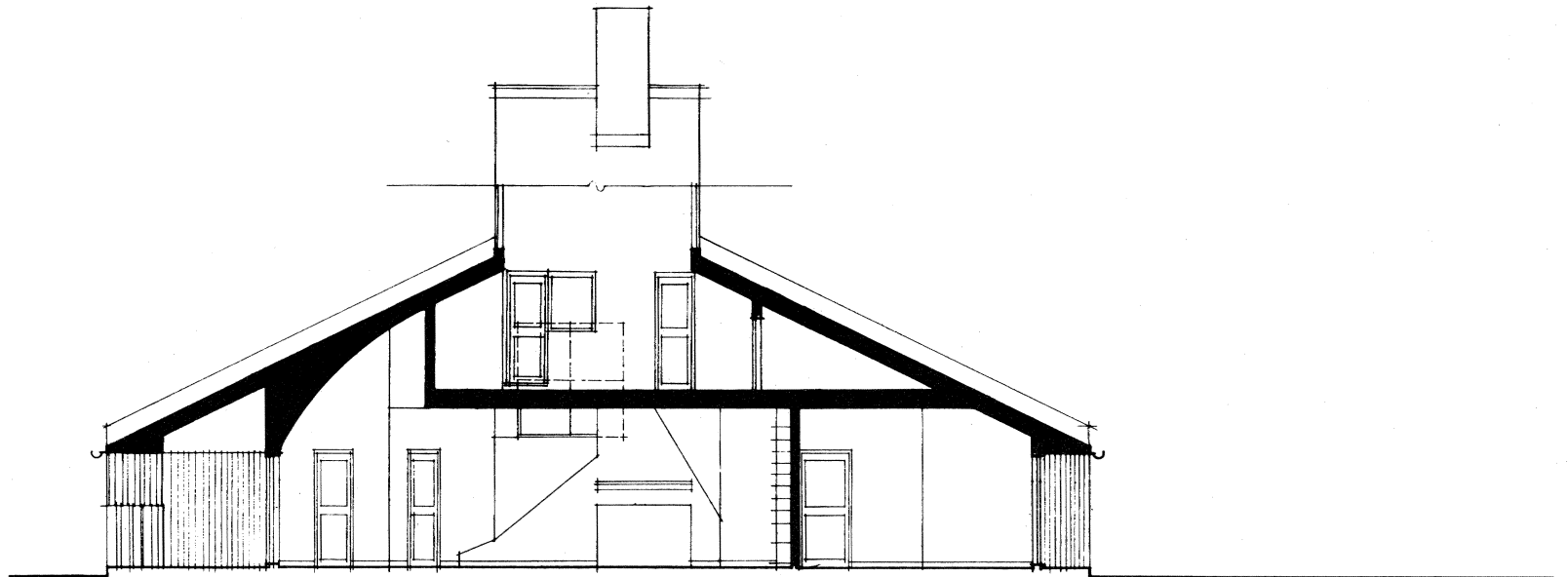
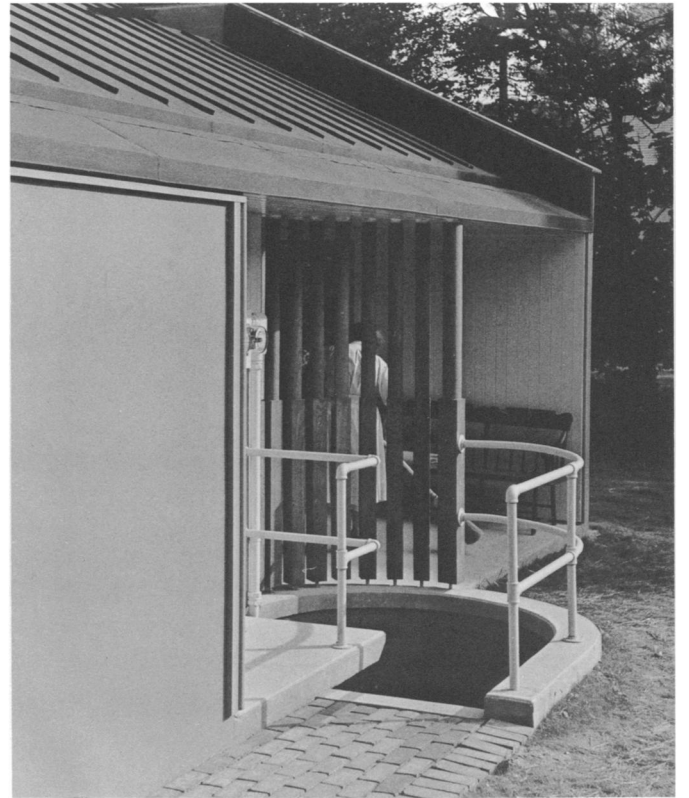
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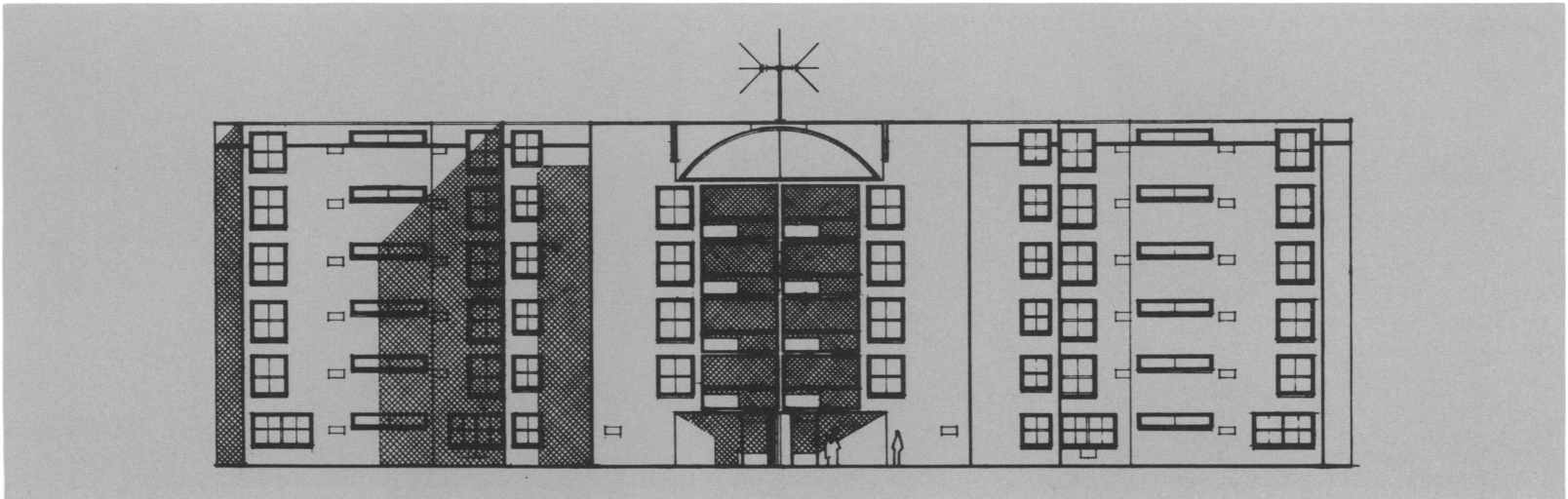
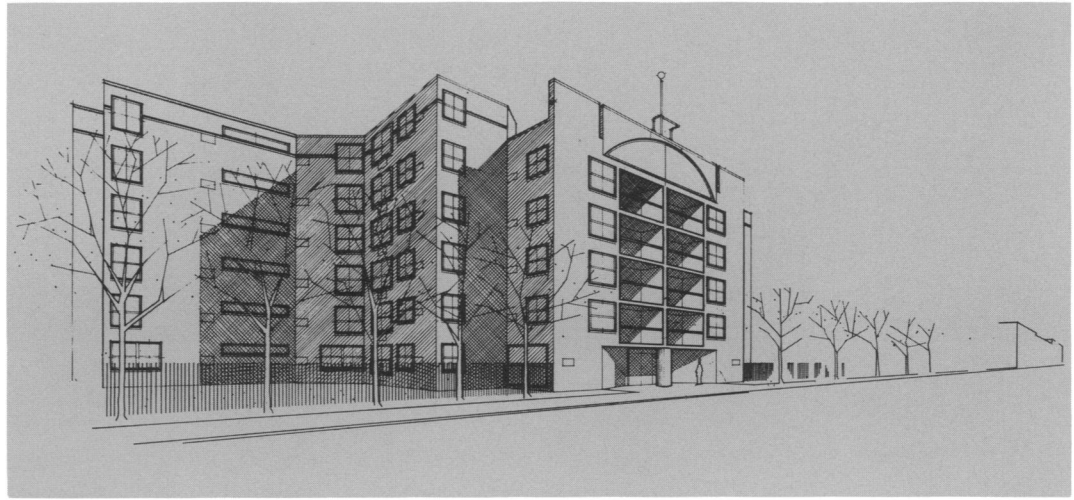




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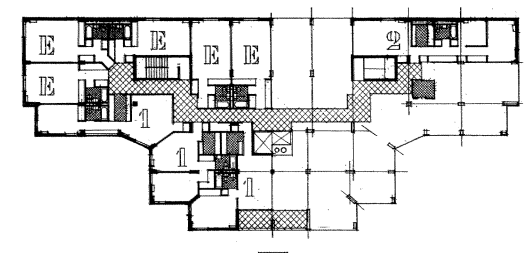
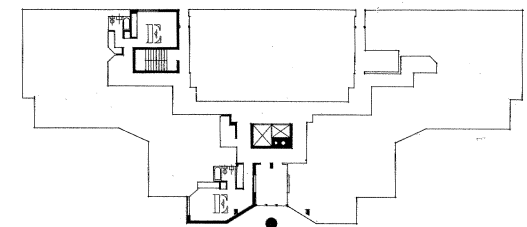
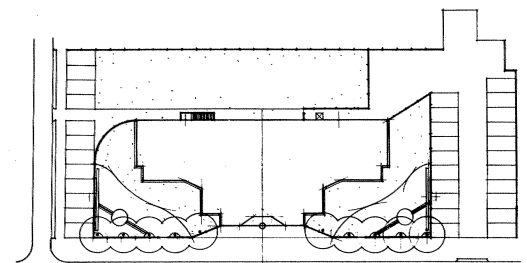


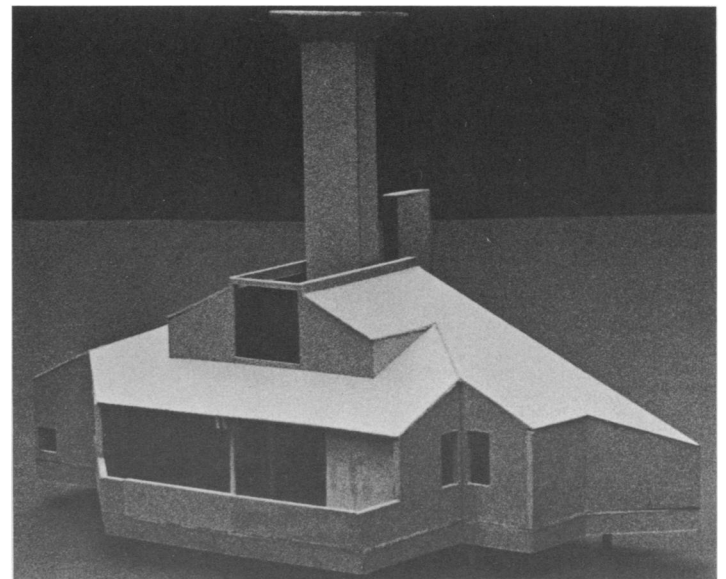
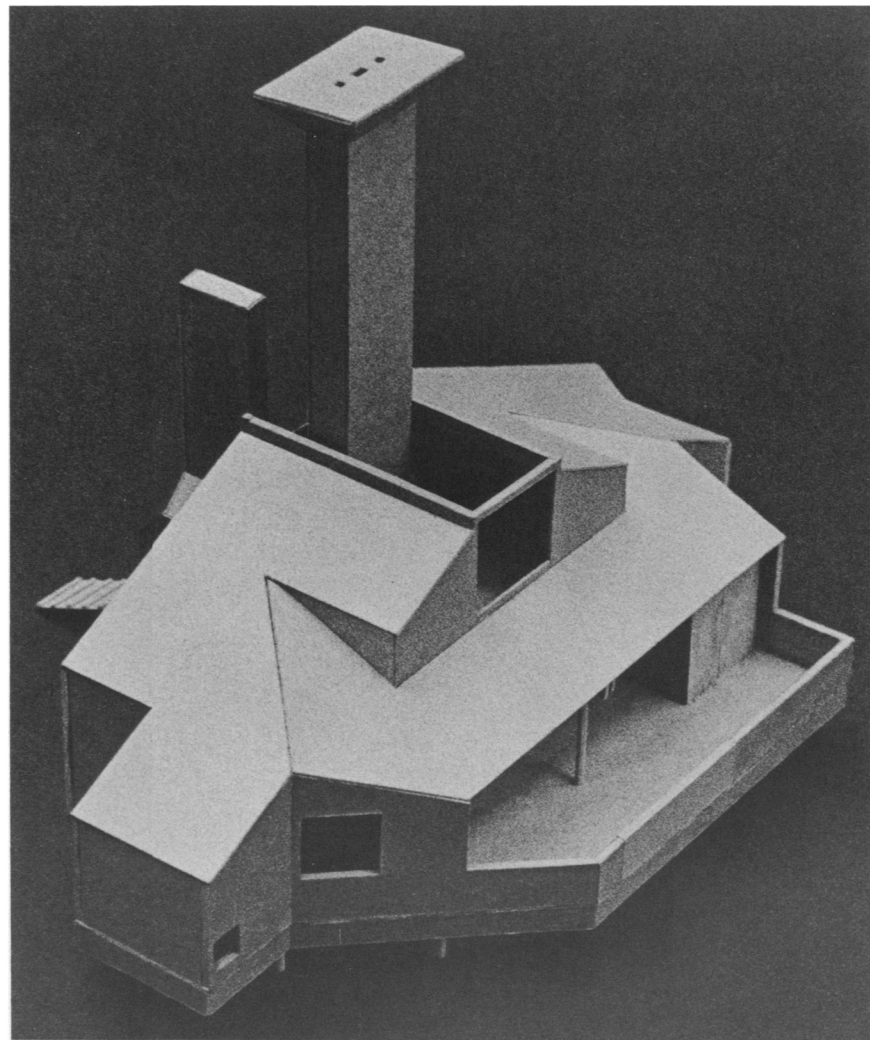




FRIEND'S HOUSING FOR THE AGED
Philadelphia
Venturi and Rauch, Cope & Lippincott
Associated Architects
Under design

The program consists of ninety-two apartments with a common room, sponsored by the Friends' Neighborhood Guild, to house old people who want to remain in their old neighborhood and retain its associations. The small urban site faces south on Spring Garden Street. The interior program suggested a maximum of apartments facing the south, southeast and southwest, and the interesting activity of the street, yet the spatial commitments to the urban street required a building not free-standing in character, but immediately bordering the street. This results in a building inflected in its shape, whose front is different from its back, and whose front facade is separated from its back-up at its top ends where terraces occur for the common room, to emphasize its vestigial role as street facade. The contrastingly intricate side facades, more sensitive to the interior demands in their exact combinations, accommodate the need for maximum southeast and southwest light, and views and garden space below. The interior spaces are defined by intricate mazes of walls and inconsistent framing patterns allowed by the flat-plate system of concrete construction and appropriately accommodating complex and varied domestic programs. The windows in the plain brick exterior are conventional elements – double-hung, like those of traditional Philadelphia row houses; they are unconventional, however, in being oversized and they thereby combine tension with quality in the expression of the facades. There is a maximum of interior volume and a minimum of corridor space for economy. The corridor is irregular and varied residual space. The variation of the column on the ground floor becomes an expedient exception to accommodate and emphasize the entrance. The garden patterns to the south consist of plots for individual gardening as in conventional Philadelphia backyards.





PROJECT FOR A BEACH HOUSE
1939

This weekend cottage, set among dunes on a beach, is to face the ocean view.

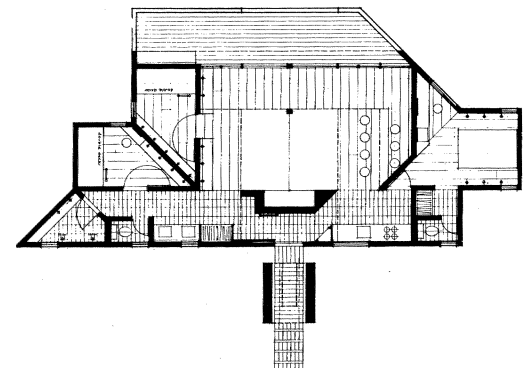
It contains the simplest living accommodations, since you are expected to spend the day on the beach. There is a small terrace at the ocean front and an open belvedere on the roof accessible by ladder and trap near the chimney.

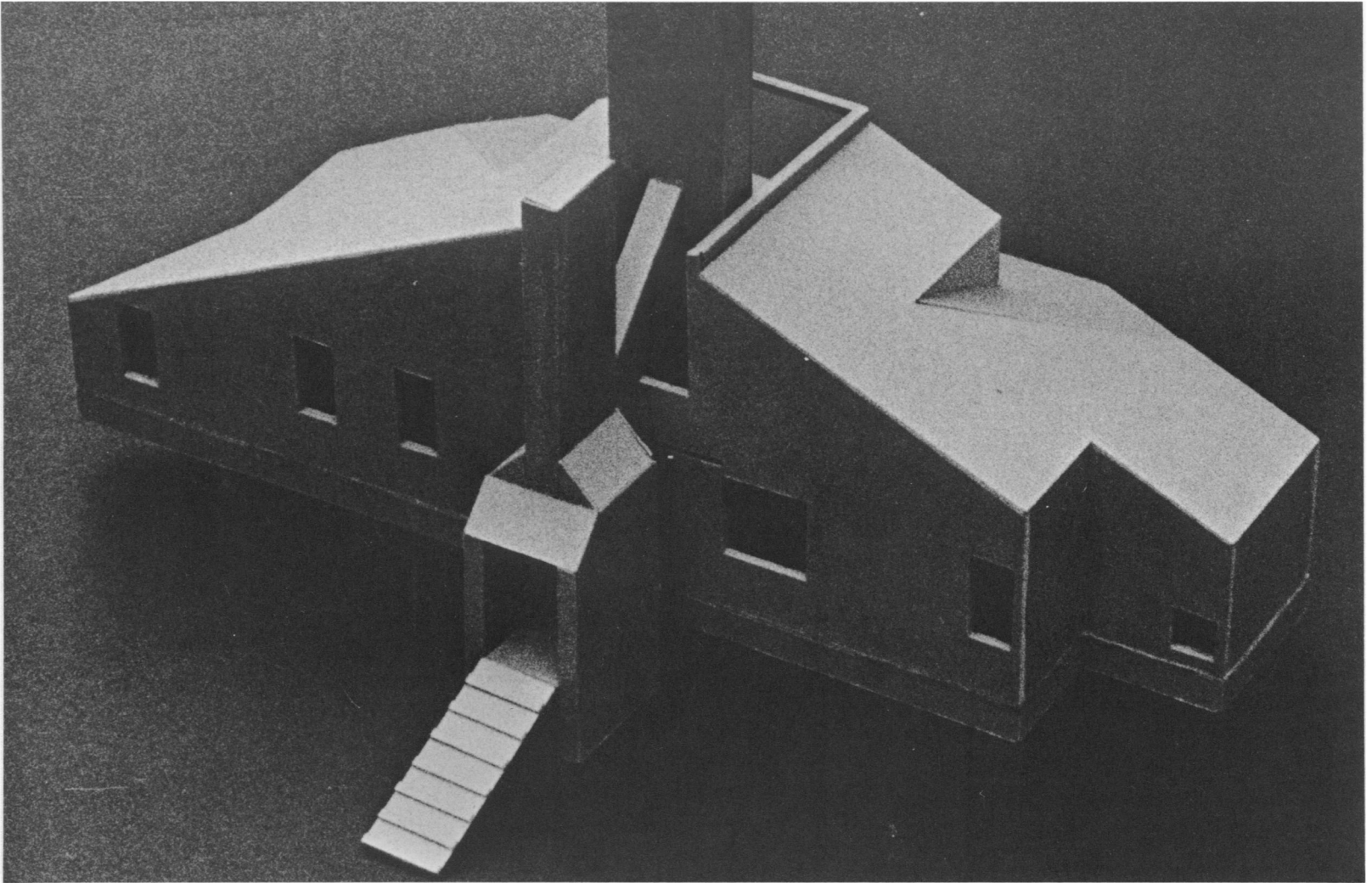
The walls are balloon frame. The roof is wood plank toe-nailed so that the whole structure is a skin and a frame at the same time. An exception occurs at the inverse clerestory and at the front opening, where the span is exceptionally long and there are two expedient posts and beams. This exception at the center makes the over-all skin structure more apparent. The floor is raised on wood piles.

The form of the house results from the juxtaposition of two ideas. The house has only two directions, the front oriented toward the sea and the back for entering; it has no sides, so to speak, and its front is different from its back. Secondly, the fireplace-chimney is a focus at the rear center from which the spaces generate in diagonals, at first symmetrically; it is a hip and a gable roofed building at the same time. Its original symmetrical form is distorted by varying interior demands and exterior forces of orientation and view. At the pointed end the exterior spatial-expressive demands of a house "without sides," directed toward the view, dominate the secondary spatial needs of a shower inside.

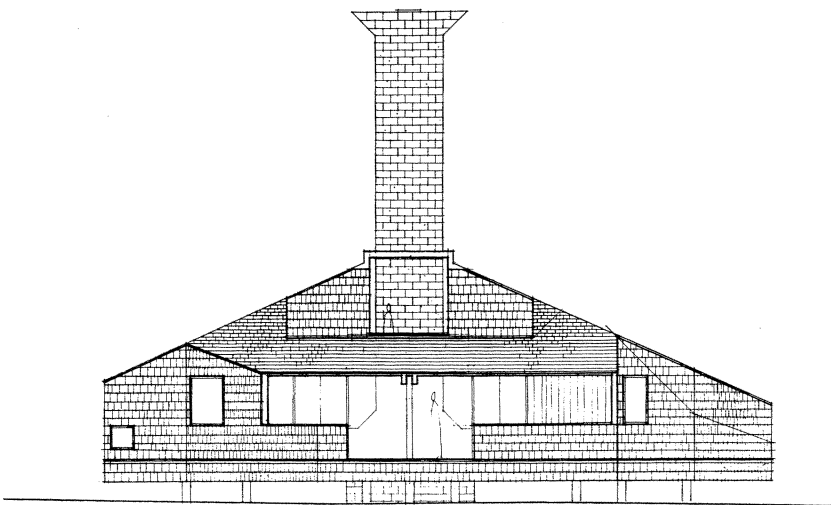
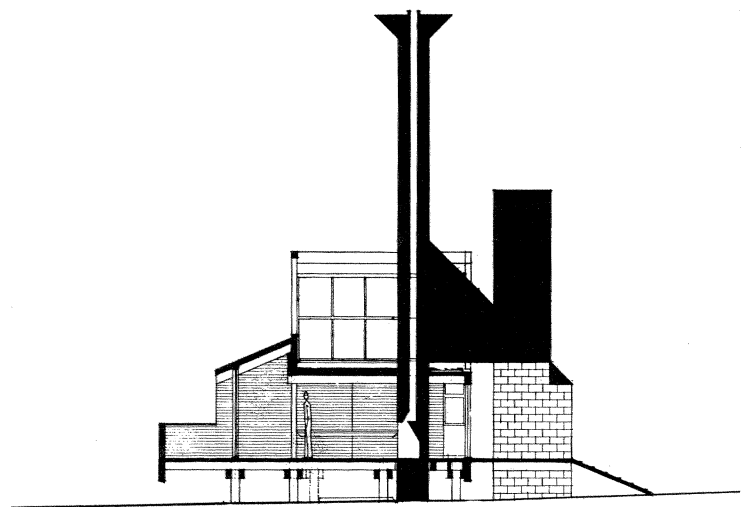
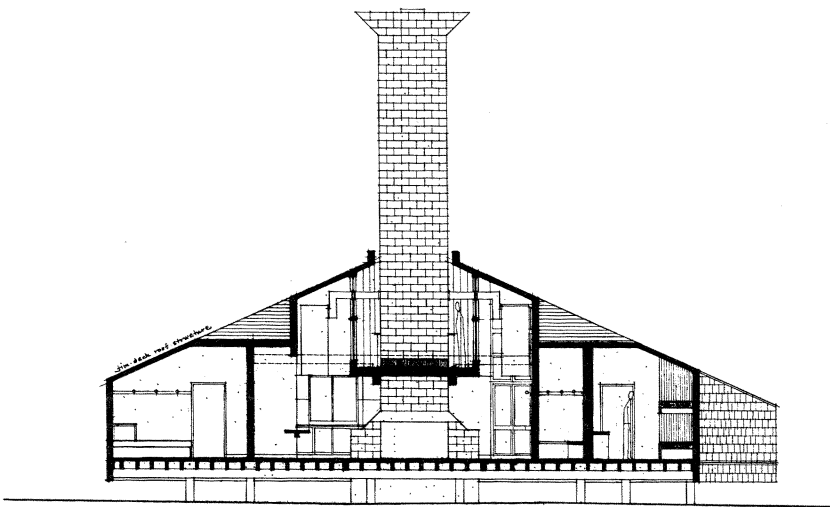
The whole outside surface is natural cedar shingles. Barge boards at the juncture of the roof and wall are minimized so that roof and wall look more continuous. The overlapping scales of the walls end

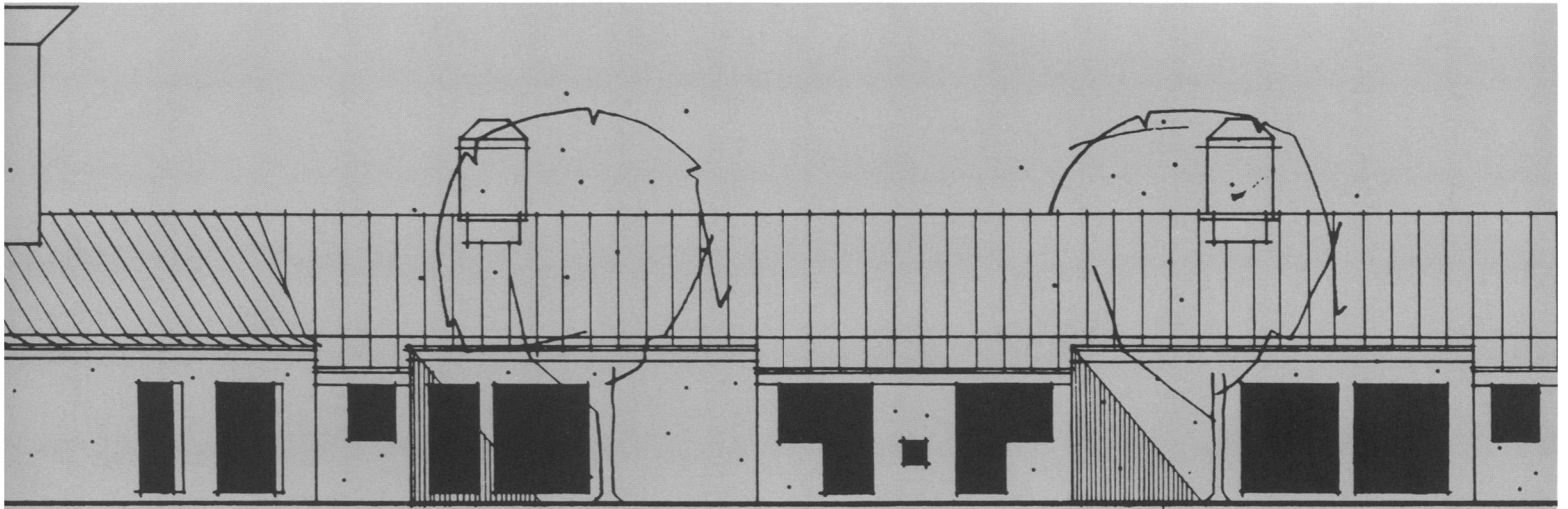
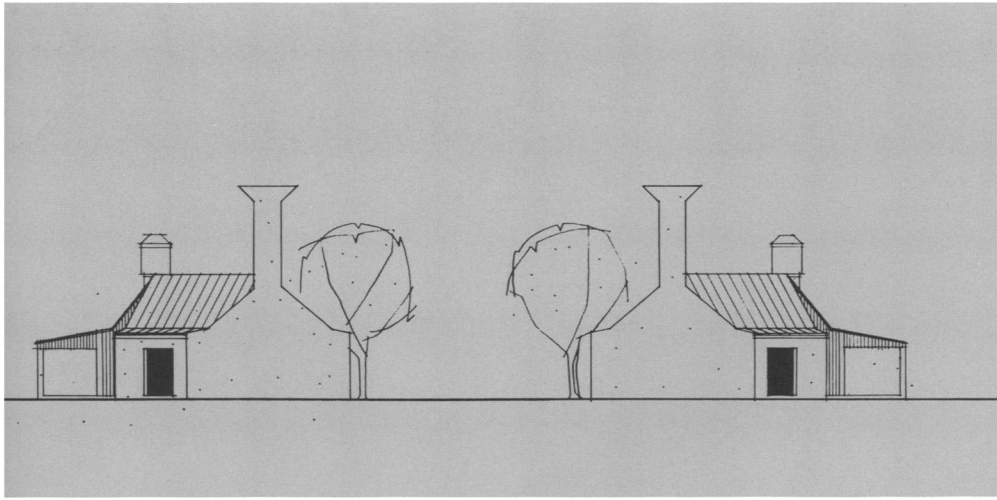
in a skirt over the piles. Windows and porch openings punch varying holes in the constant skin. The interior surface that you see beyond the windows and within the porch are contrastingly painted board surfaces, like the inside lining of a cape. The soffits of the openings where the skin is cut are painted a contrasting color. The shingles never touch the block chimney and its buttress, which forms an open vestibule as well. The chimney seems to come through a hole in the roof.





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**FOULKWAYS AT GWYNEDD,
RURAL HOUSING FOR THE AGED**
In association with Cope & Lippincott
1959

The site is sixty acres of open fields bordered by shrubs and punctuated by occasional rows of trees that slope toward the south.

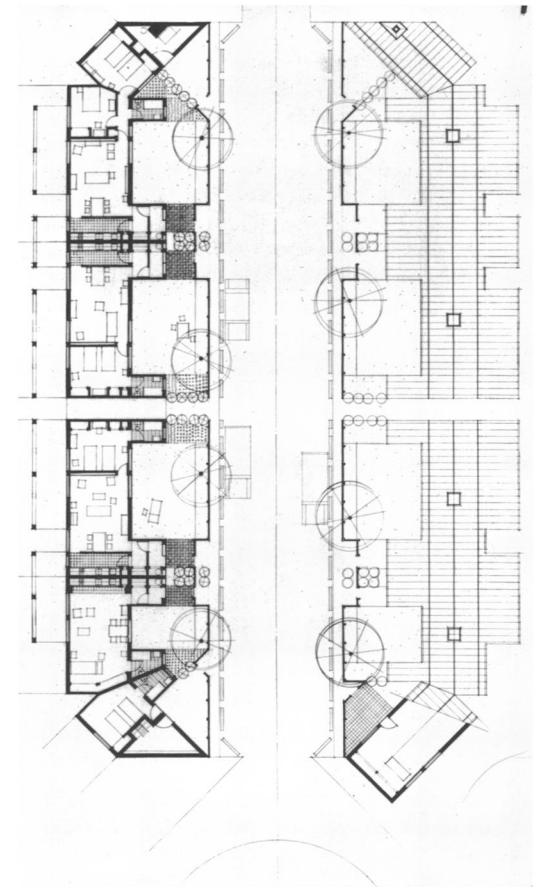
The sixty dwellings are to be clustered six to ten each, located along the edges of the fields like a rural super-block. The peripheral clusters permit a maximum of open park in the center. The diminutive neighborhoods defined by the clusters approach a friendly size and scale. The clusters provide a variety of outdoor spaces, open and enclosed, large and small, private and public. The peripheral location of the clusters along the hedgerows and bordering trees makes the buildings seem recessive in their country setting, because they are always seen and camouflaged against dark trees. Although this community will develop by stages, it will not, as a series of clusters, appear incomplete during the intermediate stages.

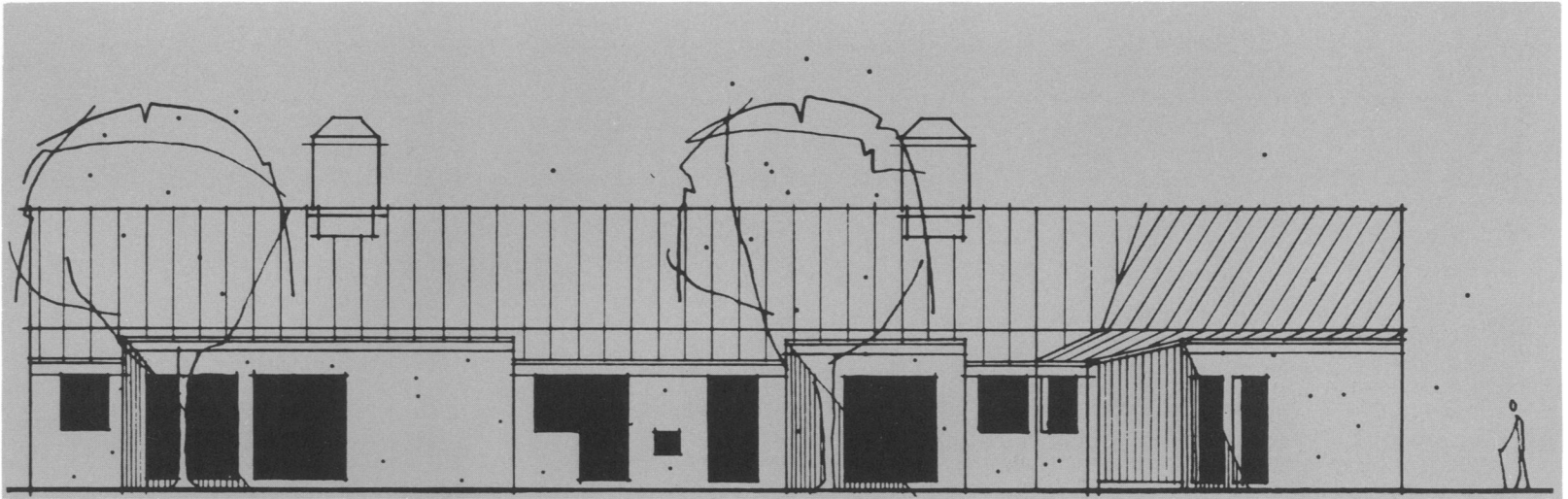
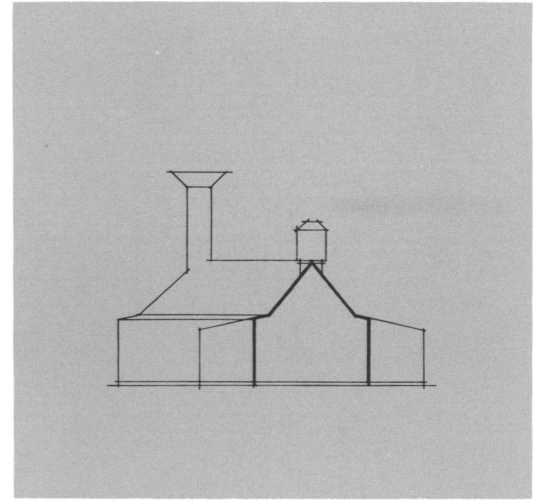
Each cluster is a cul-de-sac which keeps car circulation safe. The fields are freed for walking, and, camouflaged against the bordering trees and hedges, the effect of the moving cars is minimized.

The clusters evolve into an enlightened form of row house. The two rows in each cluster are parallel to permit optimum and equal views and orientation. Cars are parked in the courtyard. Because of large turning radii, they are turned around in a generous circle in the field beyond the cluster; the courtyards thereby can remain intimate in size and pedestrian in scale.

There is a minimum of pure circulation space in these one-room deep units. Each major room contains two exposures, north and south, and two views, expansive and intimate.

From the outside the clusters have two expressions at once. Each cluster is a definite whole, a court with entrances at the ends, as well as a series of distinct parts. The form of the parallel elongated

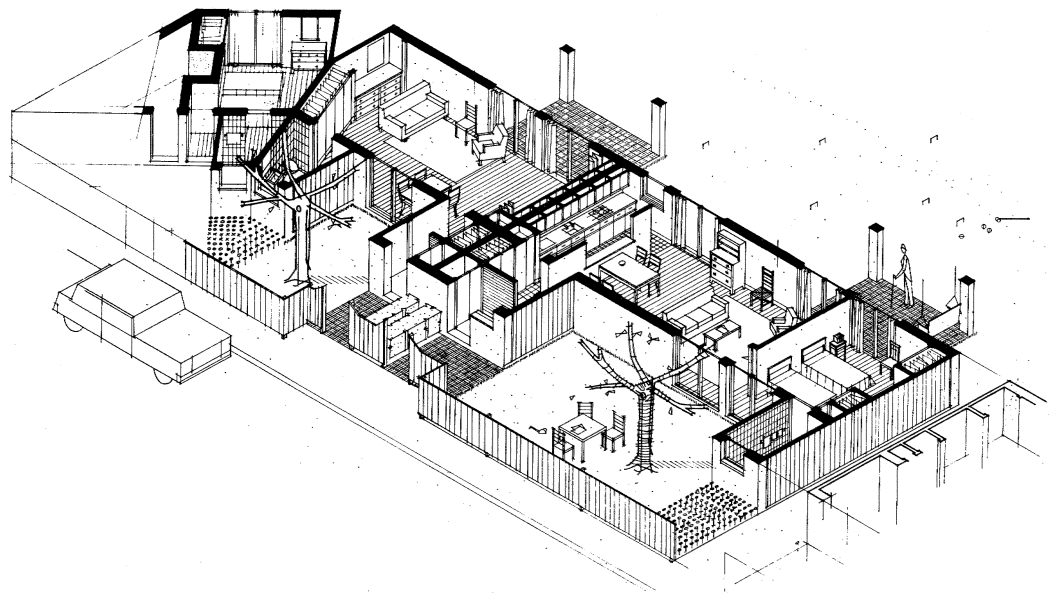




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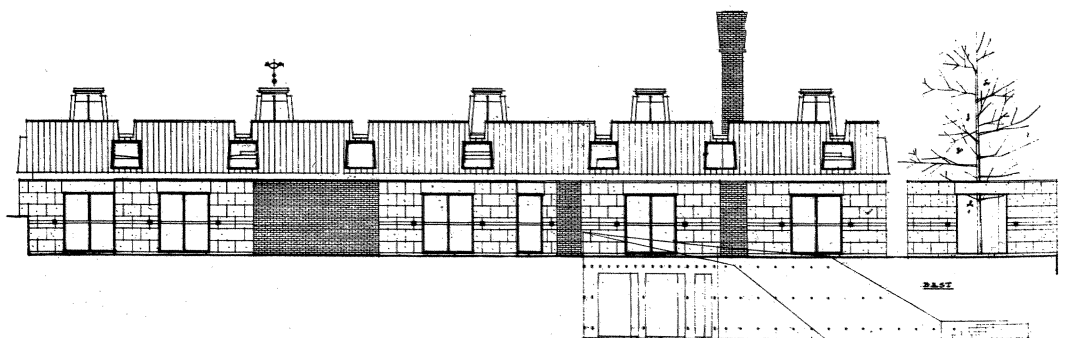
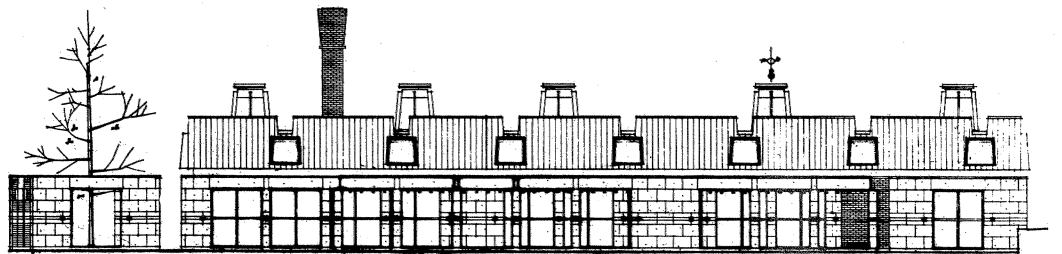
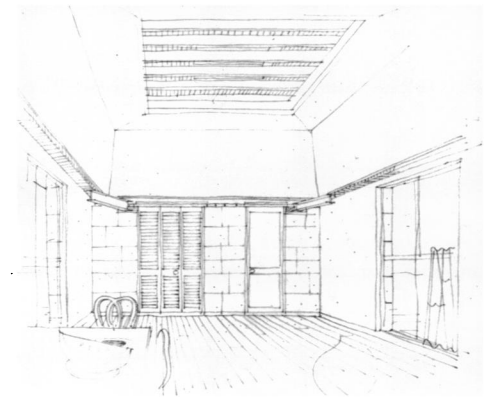
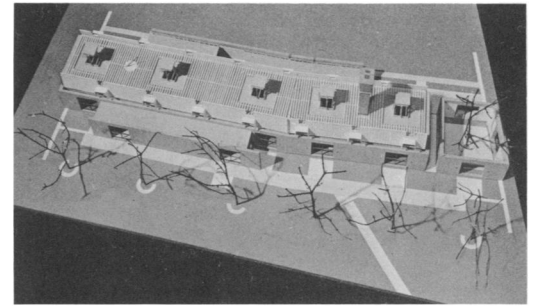
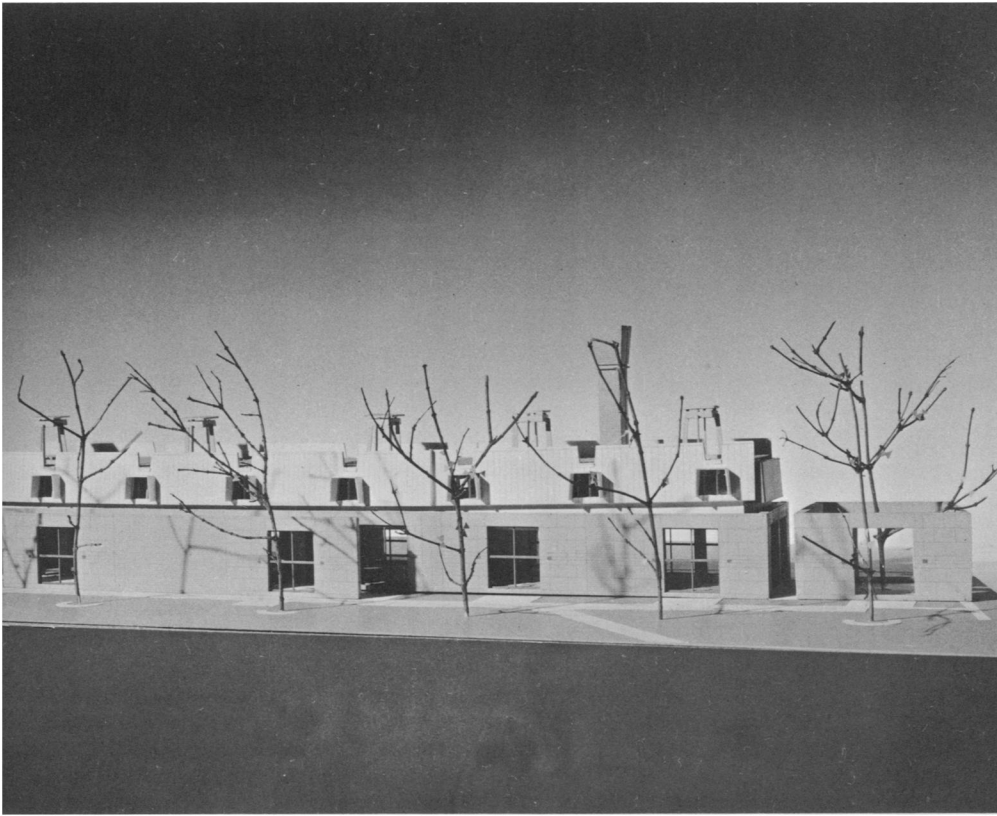
row houses is derived mainly from the spatial demands of their interiors (as well as the needs of consistent orientation); they are designed from the inside out; the needs of the parts dominate the whole. But in the modified ends of the rows, the needs of the whole dominate: the ends are designed from the outside in. Their insensitive interior spaces, heater rooms and storage, are secondary to the outside spaces they specifically make. The ends are distorted inward to enclose further the central outside space. And they are sliced off to imply entrance by means of their perpendicularity to the driveway. Also, the rectangular relationship of all four outside walls of the cluster make it a stronger whole; the resultant acute angles are not awkward in relation to the whole. At one end the interior spatial needs of the common living room dominate, and its form easily gives in to this circumstance and becomes rectangular. This eventful exception strengthens the meaning of the rest of the composition. Because of the narrow separations near the center of the rows, this composition can be read as four parts as well as eight. Because of the inflection of each outer end, the four parts have little meaning alone or without relation to each other. Therefore, the whole is further strengthened by these inflections. Lastly, the constant ridge of the roof, especially from a distance, reinforces one's interpretation of the clusters as a whole building.

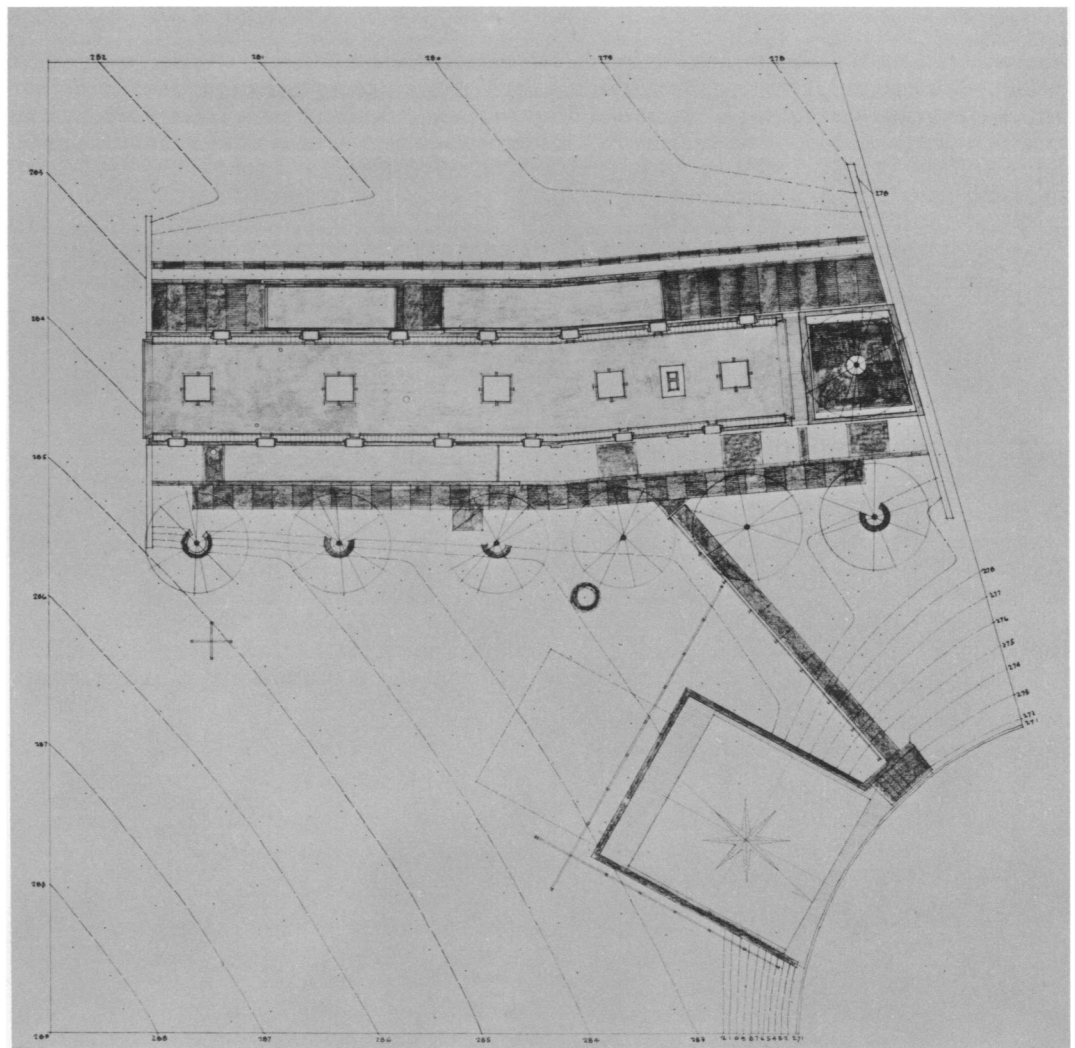
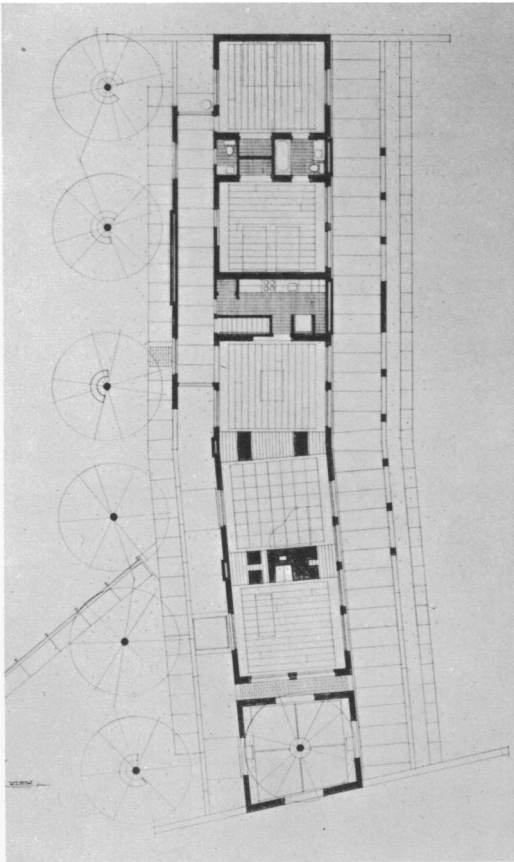
A counter emphasis on the individual dwelling occurs in the ventilator cupolas which punctuate the ridge line and distinguish each house. From a closer viewpoint the line of the eaves becomes contrastingly irregular because of the little wings and porches. This irregularity results from the interior order of the plan. It provides a contrasting intricacy and an intimate scale parallel with the English village street, which developed gradually in time.



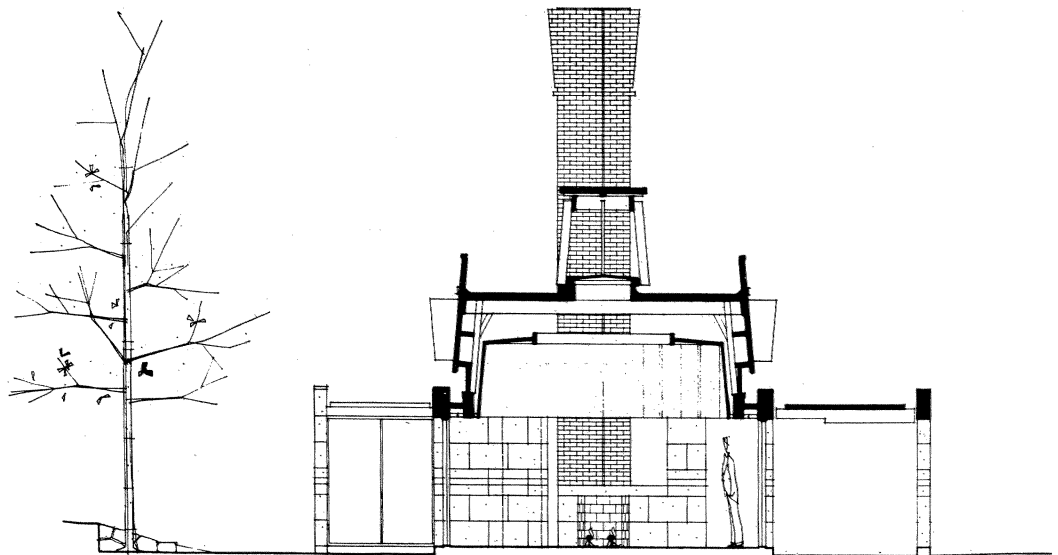
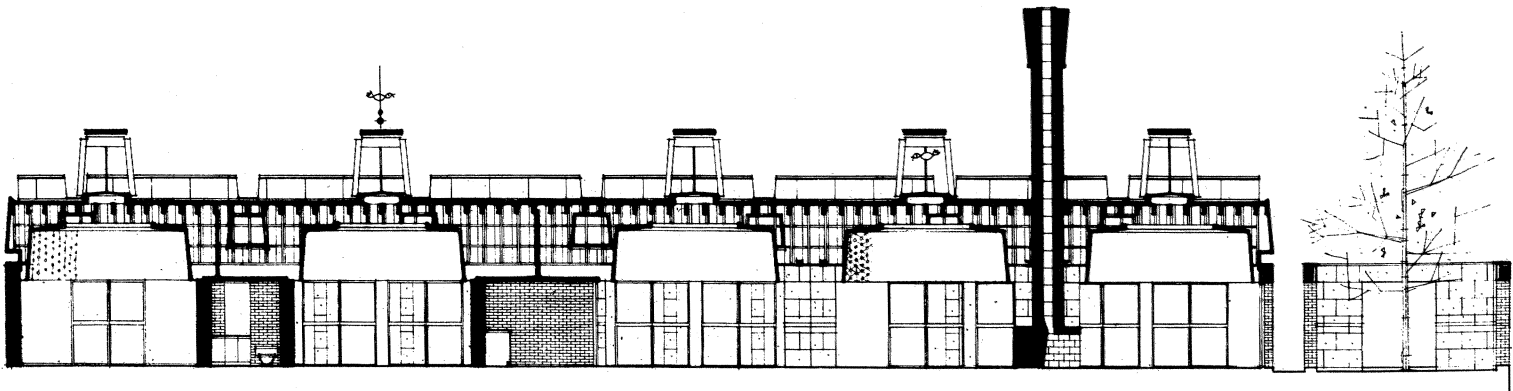
HOUSE AT CHESTNUT HILL
Chestnut Hill, Pennsylvania
 1957

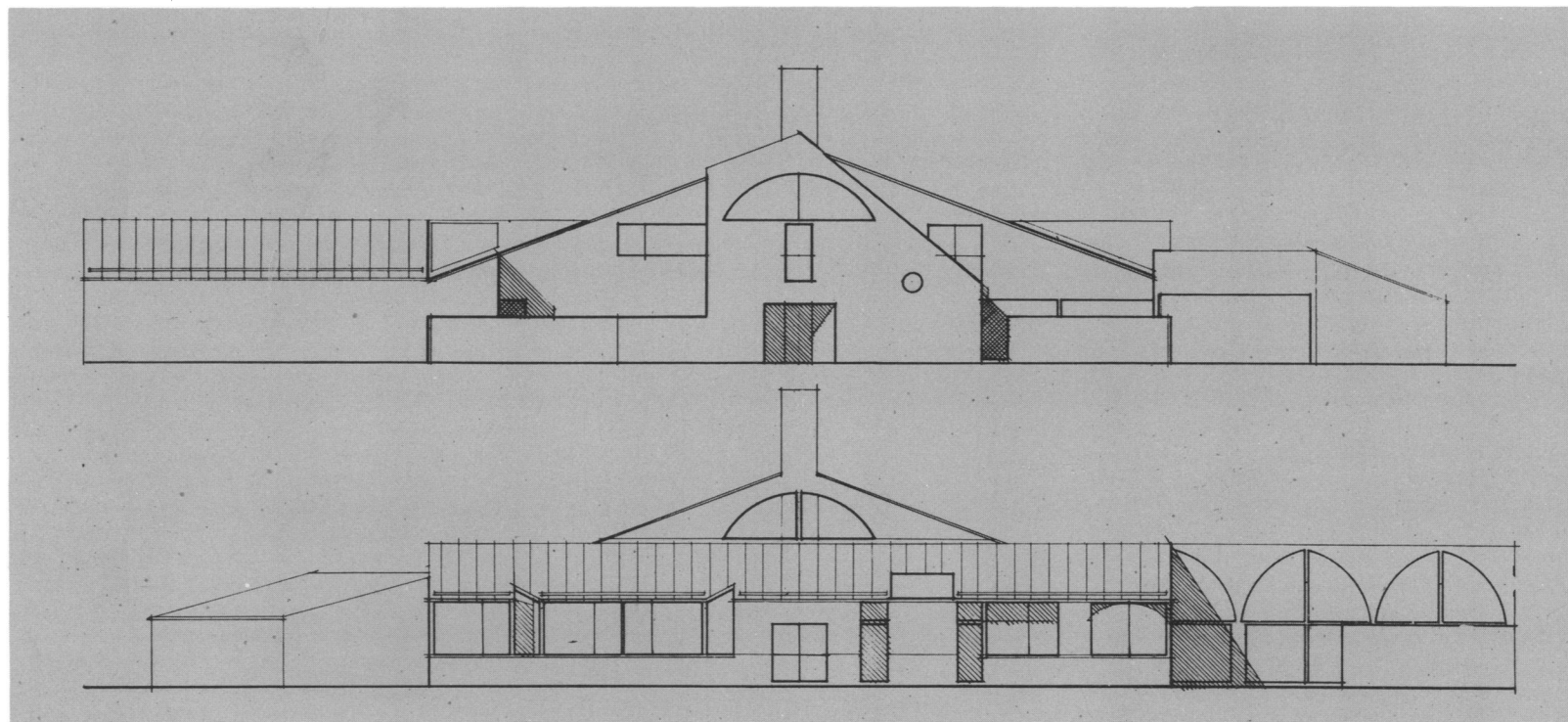
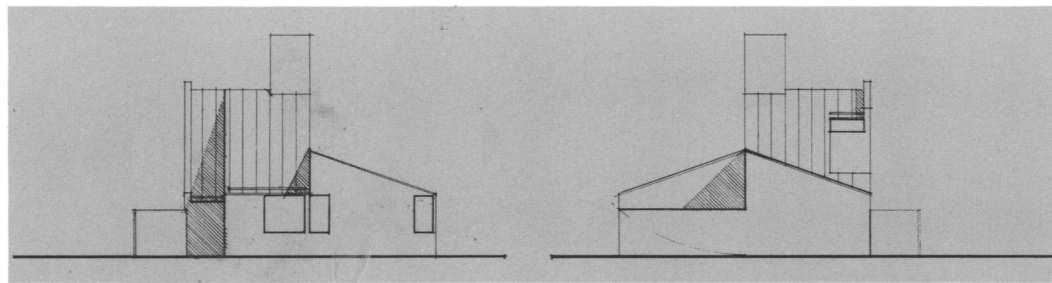
This small house exploits the idea of contrasting spatial layers between the inside and the outside, of contrapuntal rhythmic juxtapositions especially on the outside and of a series of spaces *en suite* which are general in shape and unspecific in function separated by servant spaces specific in shape and functions.





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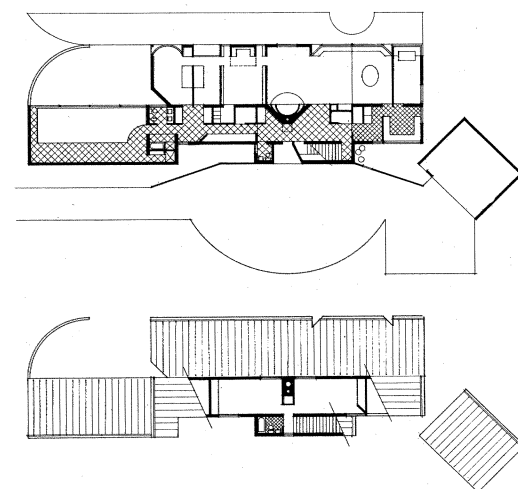
TWO PROPOSED HOUSES
Princeton, New Jersey
Venturi and Short
 1962

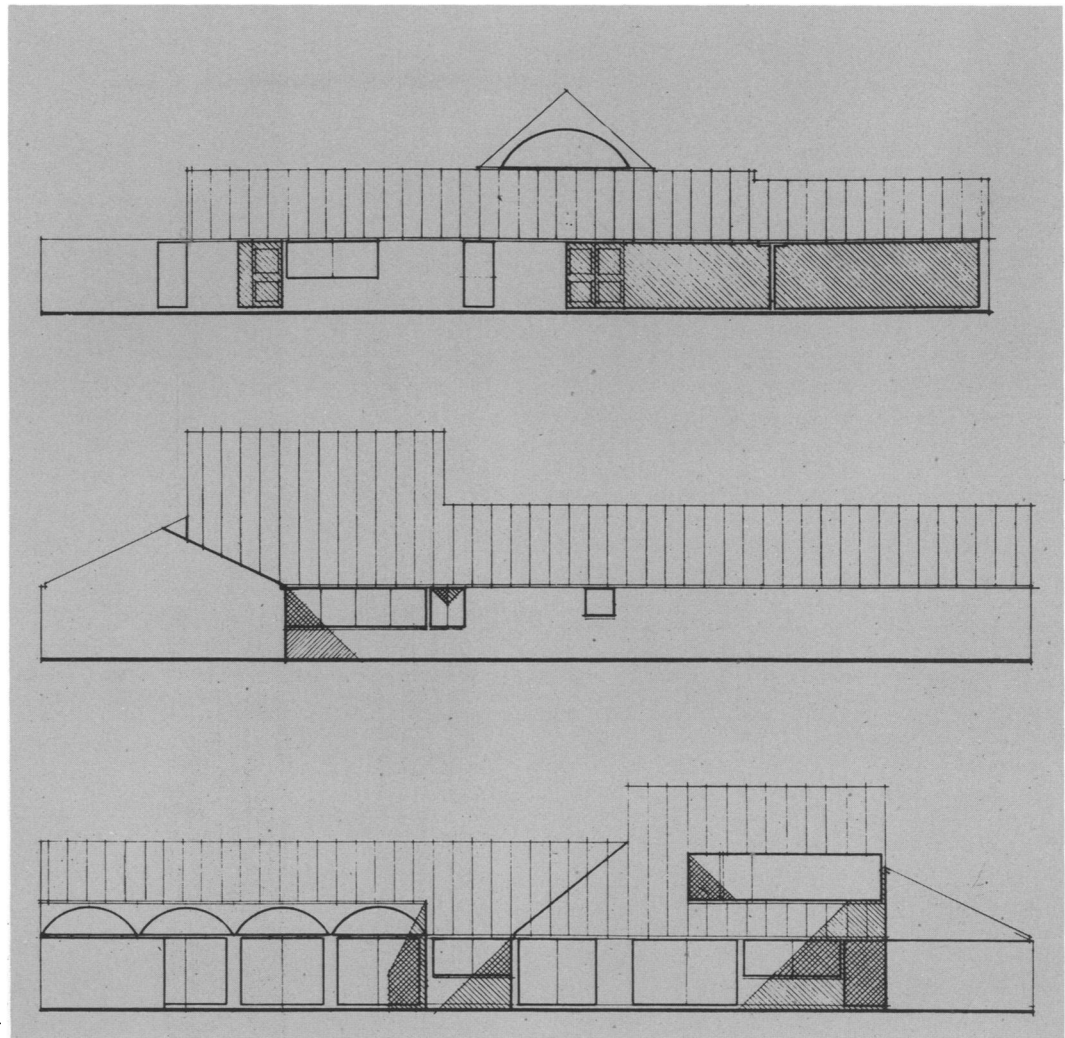
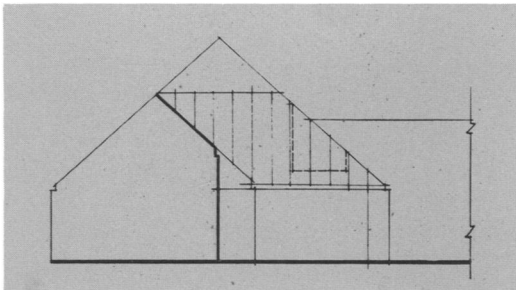
The site for the house in Princeton was a very large corner lot, flat and facing south towards the back with a view onto an old stable and a field of the Institute for Advanced Studies. It contained some patches of young trees and a row of old apple trees.

The program called for a large study for the professor easily accessible from near the front door and his small bedroom, plenty of particular kinds of storage space and an indoor swimming pool besides the usual rooms in a medium-sized house. The clients liked privacy and plenty of sun inside.

SCHEME NO. 1

The composition of scheme 1 is a duality. From the front it superimposes a long gable-roofed element on the back of a shed-roofed one. The front zone contains entrances, circulation, storage, services, swimming pool. It shields the back element containing the rooms for living in. Upstairs in the front are two guest rooms, one of which the wife would use as an office also. The violent meeting of these independent roof forms seen from the front allows various kinds of clerestory windows. The duality is resolved by the severe perimeter, which contains the two elements in plan especially at the sides and which contributes unity to the composition at this level. Also, the back wall looking onto the long terrace is particularly complex in its indented window fenestrations etc., sometimes to modify the sunlight, in contrast with the severe front wall in plan. The front wall's irregular window openings balance the otherwise oversymmetry of this pedimented façade of the house. The wall in front, a third superimposed element from the front, implies enclosure with the garage slanted in plan to suggest an auto court.



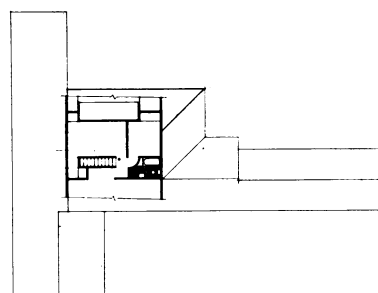
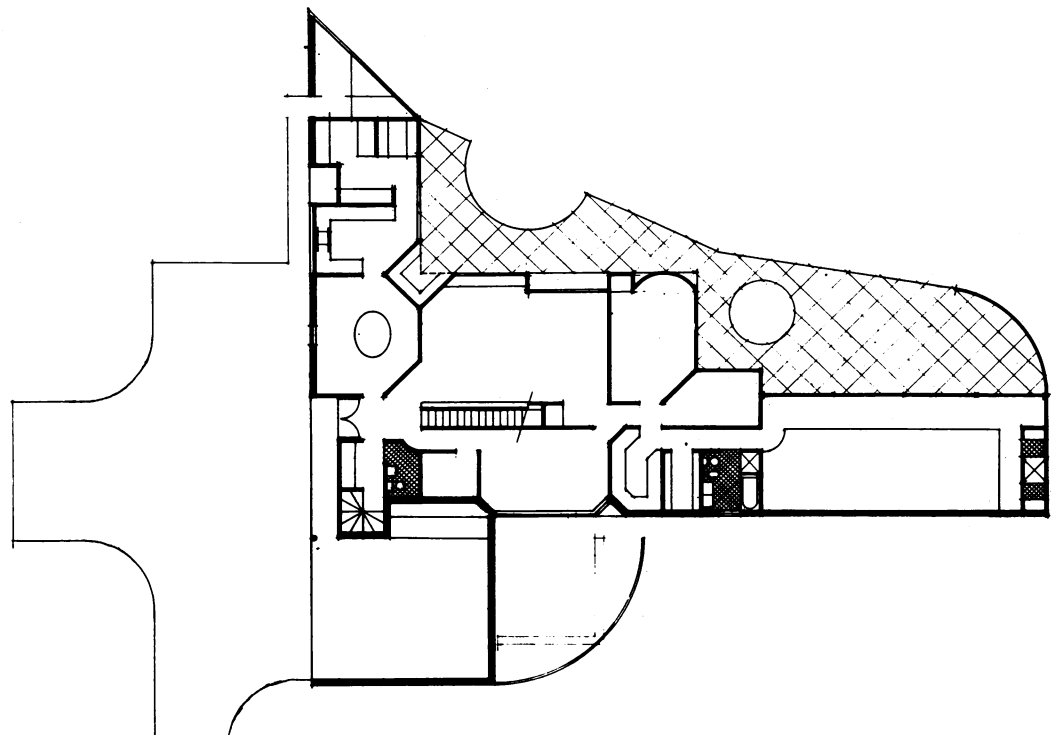


SCHEME NO. 2

The clients did not like the first scheme because they thought a linear plan precluded privacy outside in the back. The essentially L-shaped plan evolved with a similar sunny and particular, complex character in the back walls to contrast with the severe, closed character of the front walls of the L. However, the complex sloping roofs here meld into each other rather than abut violently; the up-stairs bedroom windows and balcony are contained within these roofs so as not to break their continuity with dormers. The shed-roof entrance front space, however, does abut the other roofs, and the resultant clerestory window hints at the complexity in the back from the front. The fenced service yard, pointed at the end, emphasizes the wall-like protective function on the front or outside perimeter, of the L.

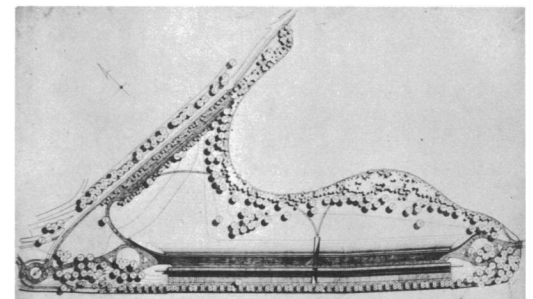
These projects express the complexities and contradictions inherent in the domestic program.

The clients didn't like this scheme either and we lost the commission.



FRANKLIN DELANO ROOSEVELT MEMORIAL
*With John Rauch, George Patton,
 and Nicholas Gianopulos*
Competition

This is a directional earth form which contrasts with and thereby enhances the white sculptural forms of the three major memorials already existing in the neighborhood; it is not a fourth sculptural form next to a parking lot. It is several things at once: an open, white marble promenade along the Potomac, which recognizes and utilizes the river's edge for pedestrians; a contrastingly closed, integral street, which accommodates the visitors' parking; and a green grass mound on the other side, as a background for the cherry trees on the basin. The complex curve on the riverside accommodates a multiplicity of ramps, stairs, and passages, and has an ornamental surface, interesting close up; yet by its extreme continuity, suggested and actual, this curve contributes a scale appropriately monumental, and visible from a distance. The continuous curve on the other side accommodates varying materials – grass, ground cover, vine and concrete cap in sequence in relation to the varying degrees of the slope. A variety of spaces is afforded by the sequence of open park, tight vehicular ravine, close pedestrian passage, and open-directional promenade, itself relieved by details like trees and benches, and at the middle, by a vision slit on axis with the Washington obelisk.





56

GRAND'S RESTAURANT
Venturi and Short
Demolished
1962

This is one restaurant composed of two houses. Its new façade is a juxtaposition of elements one and two: a play in dualities. The old row houses are identical in the upper stories with an almost continuous cornice. Duality is minimized by painting these stories one dark, neutral color all over. A duality is emphasized on the ground floor necessarily by the central structural pier between large openings. The face of the wall is left undisturbed, as above, except for the applied dark grey. Within the frames of the two openings a contrastingly new and varied wall treatment occurs – concave on the entrance side, convex on the other. These differences further emphasize the duality on the ground floor of the façade. But it is the porcelain-enamel sign at the level of the second floor that boldly concludes this simultaneous play of duality yet unity, derived from the existing composition of the building. In its extension across the whole front the sign encourages unity, yet in its division of colors, blue on the right and yellow on the left, it points up the duality of the original building. In the continuity of the punched letters with white plastic behind, continuity across is re-established. The cup similarly attracts the eye by unifying and disrupting at once. In it the sign evolves from two dimensions to three, so that it can be seen by pedestrians as they approach parallel to the façade, in contrast to the flat part of the sign to be seen at a distance. The cup's leaves, as the central transition between the blue and yellow sides, are alternately blue and yellow, and "change" visually as you move past them. At night the letters become translucent white light, and the cup was to have been outlined in neon before the sign was modified by the owners. The bold scale of the letters is appropriate to their advertising function. The resultant "compromise" of the division of the word plays up the duality and catches the eye reluctant to read advertisements. The duality of the exterior is



carried on inside where the entrance, fountain, open kitchen, and toilet rooms are played against the equal restaurant side. Here ornament is derived from the inexpensive method of painted patterns on the white walls – that is, large-scale yellow stencil letters spelling *Grand's Restaurant* is emphasized by the backward reflected letters on the facing side of the room, which are unreadable. The high booths are painted a glossy dark green and blue, with epoxy-resin. The chairs are conventional Thonet models, and the lighting fixtures white porcelain RLM's.

