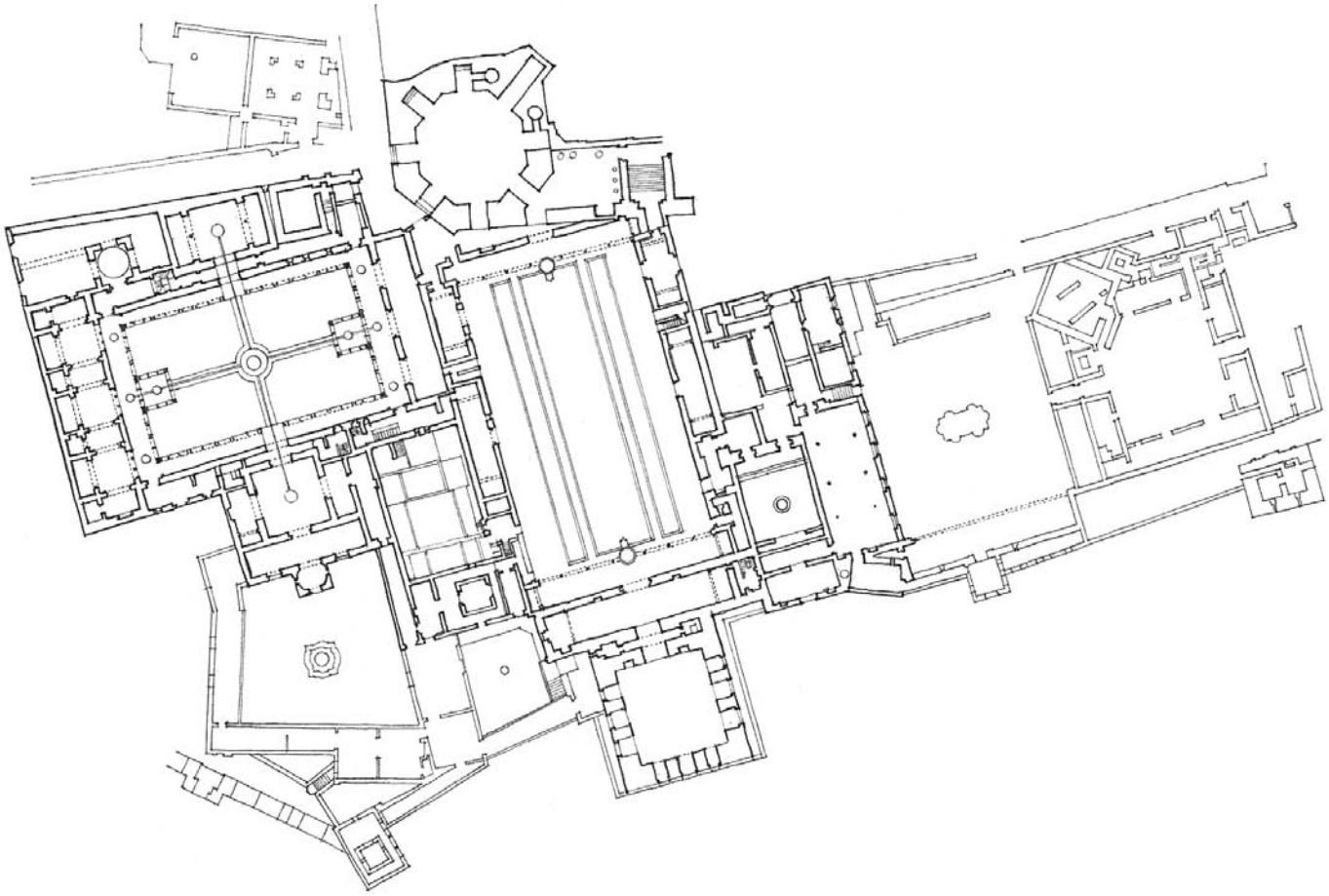
4
Organization

"... A good house is a single thing, as well as a collection of many, and to make it requires a conceptual leap from the individual components to a vision of the whole. The choices ... represent ways of assembling the parts.
... the basic parts of a house can be put together to make more than just basic parts: They can also make space, pattern, and outside domains. They dramatize the most elementary act which architecture has to perform. To make one plus one equal more than two, you must in doing any one thing you think important (making rooms, putting them together, or fitting them to the land) do something else that you think important as well (make spaces to live, establish a meaningful pattern inside, or claim other realms outside)."

Charles Moore, Gerald Allen, Donlyn Lyndon
The Place of Houses
1974

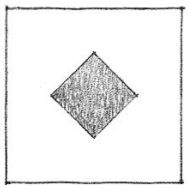
ORGANIZATION OF FORM AND SPACE

The last chapter laid out how various configurations of form could be manipulated to define a solitary field or volume of space, and how their patterns of solids and voids affected the visual qualities of the defined space. Few buildings, however, consist of a solitary space. They are normally composed of a number of spaces which are related to one another by function, proximity, or a path of movement. This chapter lays out for study and discussion the basic ways the spaces of a building can be related to one another and organized into coherent patterns of form and space.



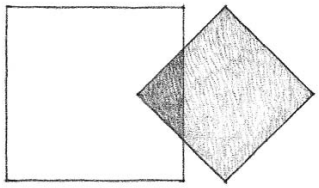
Alhambra, Palace and Citadel of the Moorish kings, Granada, Spain, 1248–1354

Two spaces may be related to each other in several fundamental ways.



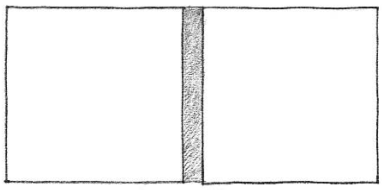
Space within a Space

A space may be contained within the volume of a larger space.



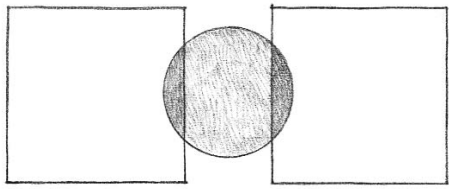
Interlocking Spaces

The field of a space may overlap the volume of another space.



Adjacent Spaces

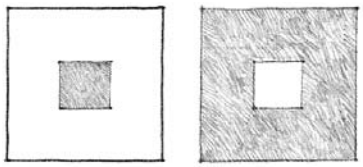
Two spaces may abut each other or share a common border.

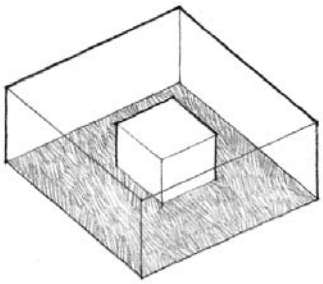


Spaces Linked by a Common Space

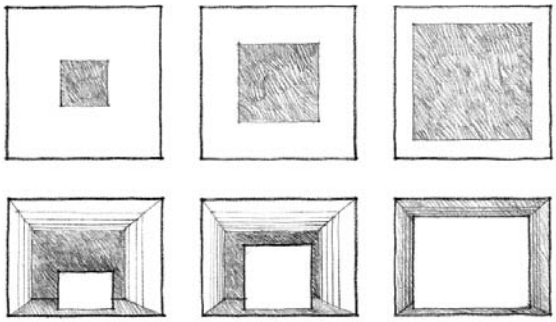
Two spaces may rely on an intermediary space for their relationship.

SPACE WITHIN A SPACE

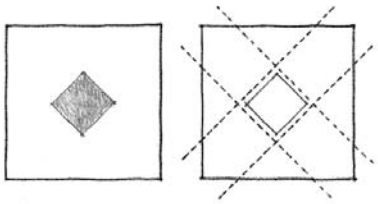


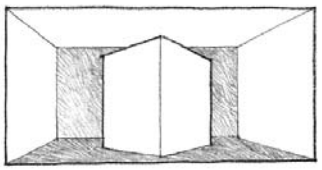


A large space can envelop and contain a smaller space within its volume. Visual and spatial continuity between the two spaces can be easily accommodated, but the smaller, contained space depends on the larger, enveloping space for its relationship to the exterior environment.

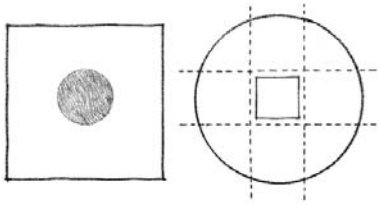


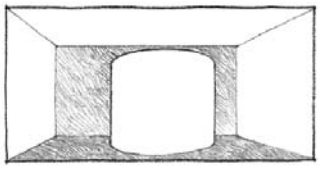
In this type of spatial relationship, the larger, enveloping space serves as a three-dimensional field for the smaller space contained within it. For this concept to be perceived, a clear differentiation in size is necessary between the two spaces. If the contained space were to increase in size, the larger space would begin to lose its impact as an enveloping form. If the contained space continued to grow, the residual space around it would become too compressed to serve as an enveloping space. It would become instead merely a thin layer or skin around the contained space. The original notion would be destroyed.





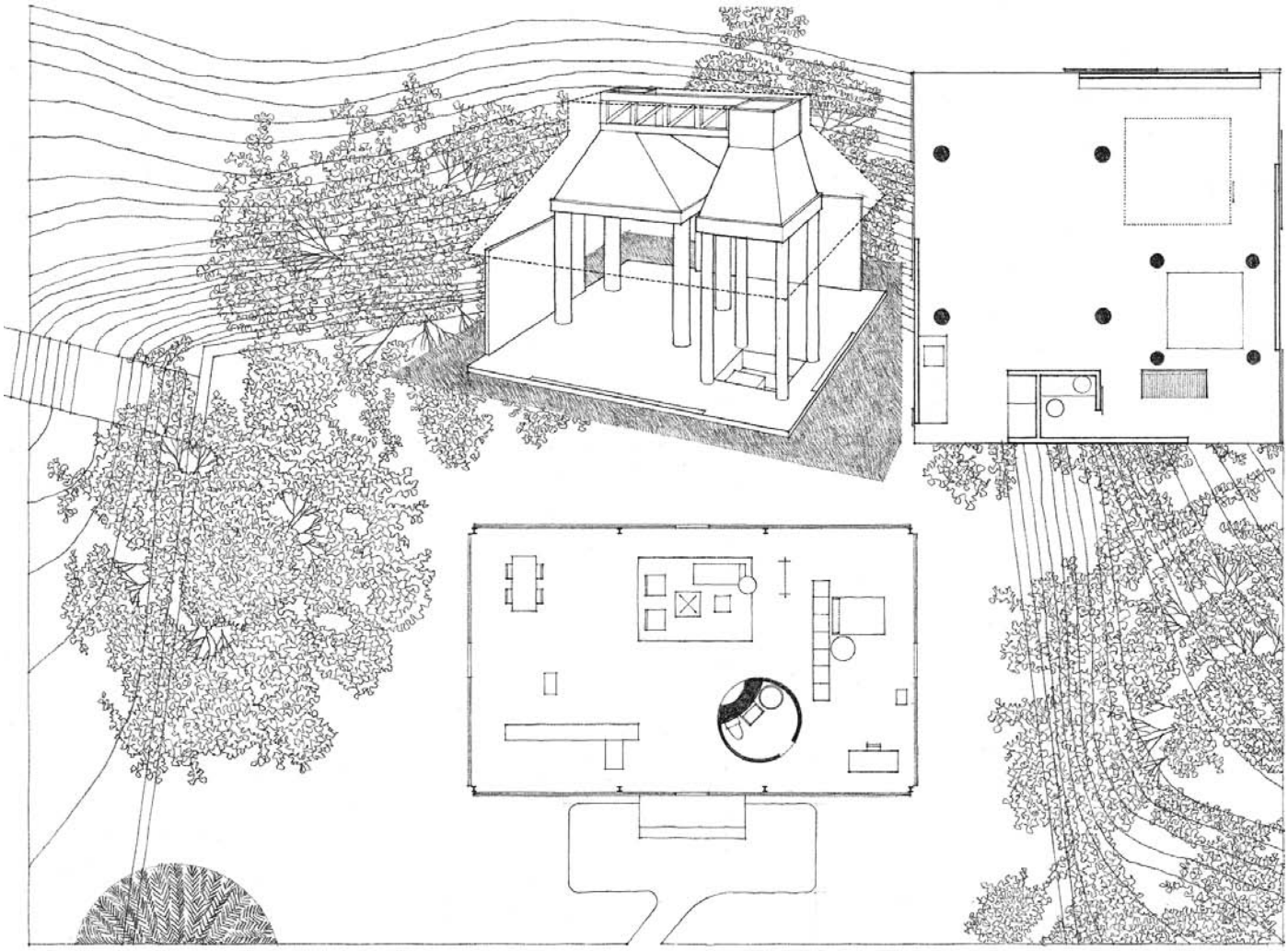
To endow itself with a higher attention-value, the contained space may share the form of the enveloping shape, but be oriented in a different manner. This would create a secondary grid and a set of dynamic, residual spaces within the larger space.





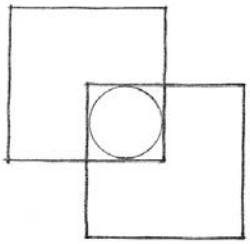
The contained space may also differ in form from the enveloping space in order to strengthen its image as a freestanding volume. This contrast in form may indicate a functional difference between the two spaces or the symbolic importance of the contained space.

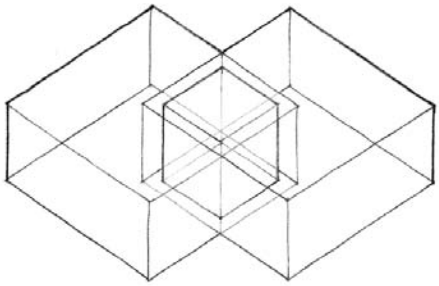
Moore House, Orinda, California, 1961, Charles Moore



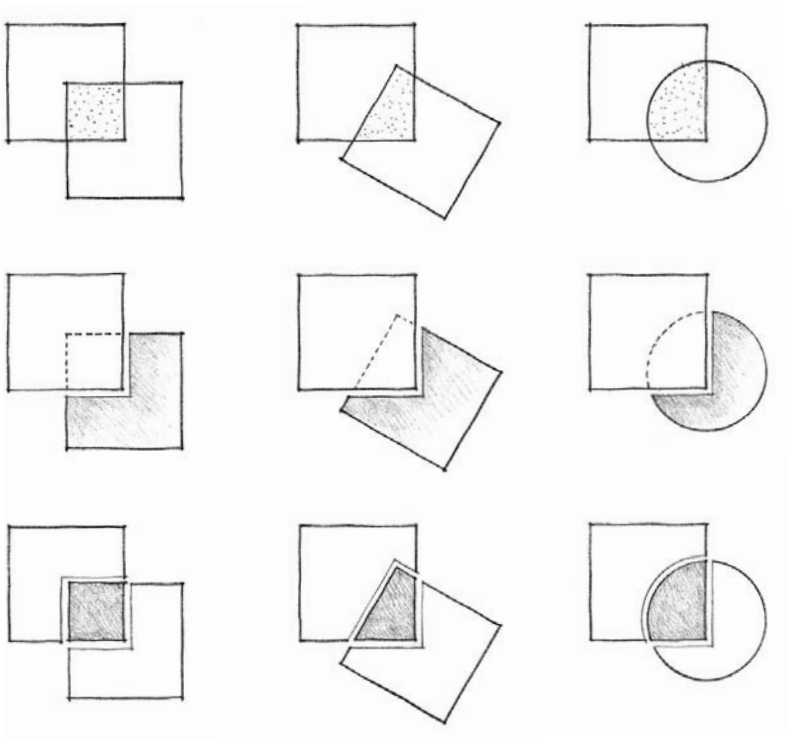
Glass House, New Canaan, Connecticut, 1949, Philip Johnson

INTERLOCKING SPACES





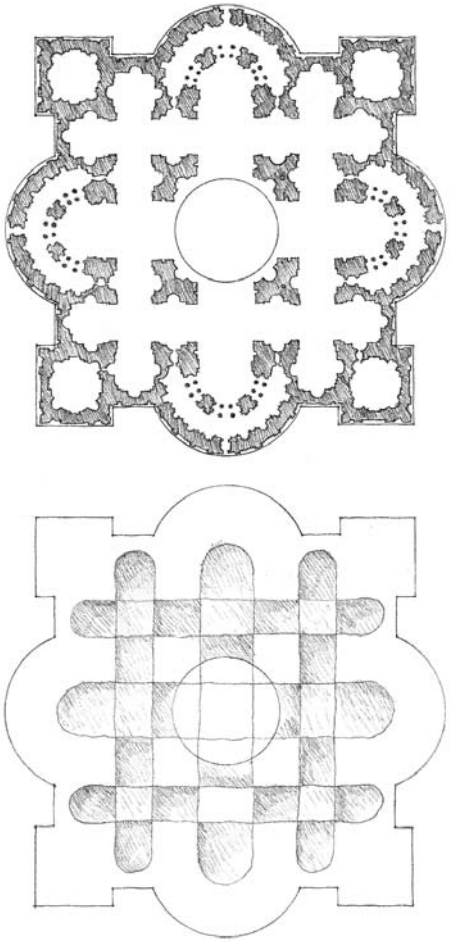
An interlocking spatial relationship results from the overlapping of two spatial fields and the emergence of a zone of shared space. When two spaces interlock their volumes in this manner, each retains its identity and definition as a space. But the resulting configuration of the two interlocking spaces is subject to a number of interpretations.



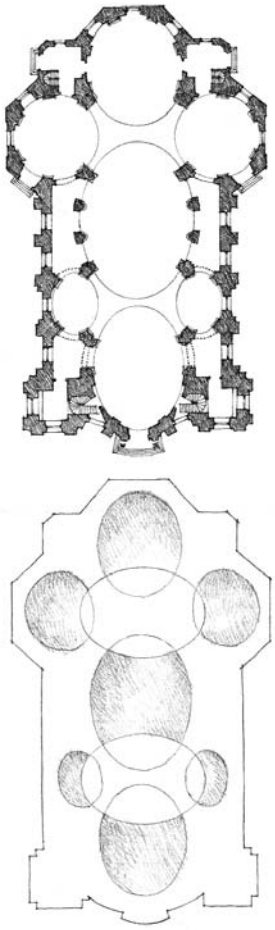
The interlocking portion of the two volumes can be shared equally by each space.

The interlocking portion can merge with one of the spaces and become an integral part of its volume.

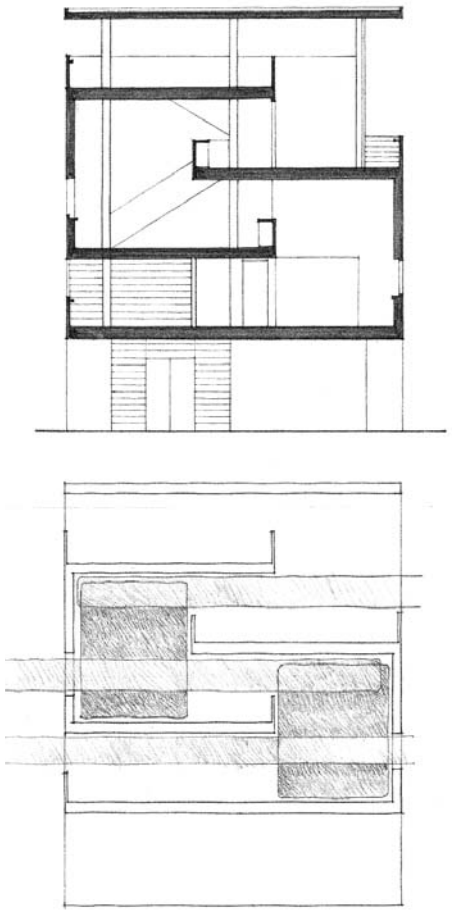
The interlocking portion can develop its own integrity as a space that serves to link the two original spaces.



Plan for St. Peter (Second Version), Rome, 1506–1520, Donato Bramante & Baldassare Peruzzi



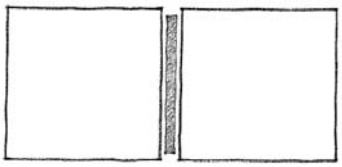
Pilgrimage Church, Vierzehnheiligen, Germany, 1744–72, Balthasar Neumann

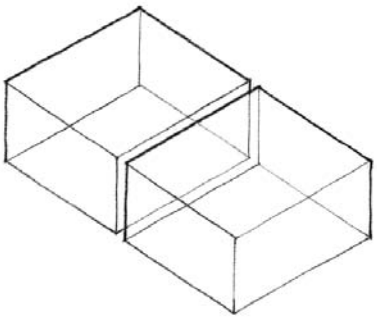


Villa at Carthage, Tunisia, 1928, Le Corbusier

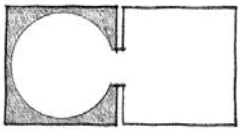
The one-story space flows into the larger volume of which it is a part and to the outdoors.

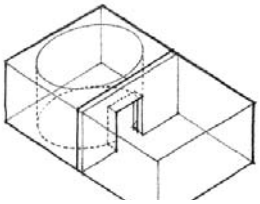
ADJACENT SPACES

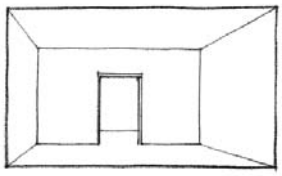




Adjacency is the most common type of spatial relationship. It allows each space to be clearly defined and to respond, each in its own way, to specific functional or symbolic requirements. The degree of visual and spatial continuity that occurs between two adjacent spaces depends on the nature of the plane that both separates and binds them together.

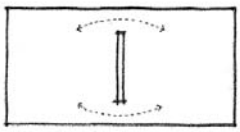


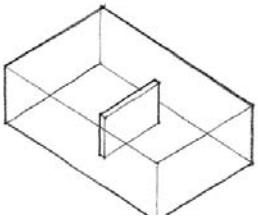


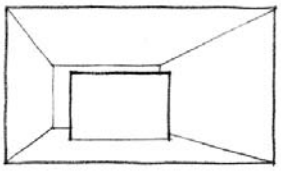


The separating plane may:

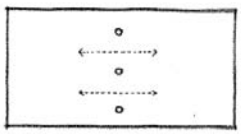
- limit visual and physical access between two adjacent spaces, reinforce the individuality of each space, and accommodate their differences.

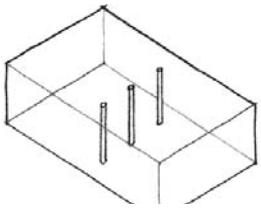


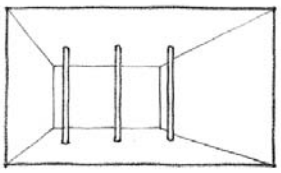




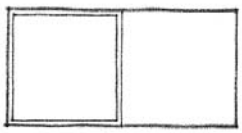
- appear as a freestanding plane in a single volume of space.

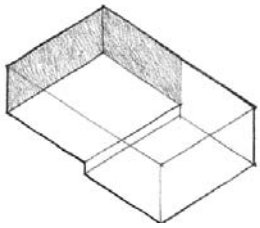


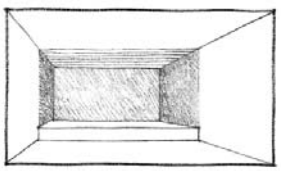




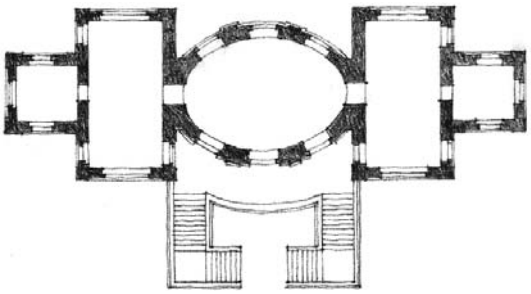
- be defined with a row of columns that allows a high degree of visual and spatial continuity between the two spaces.



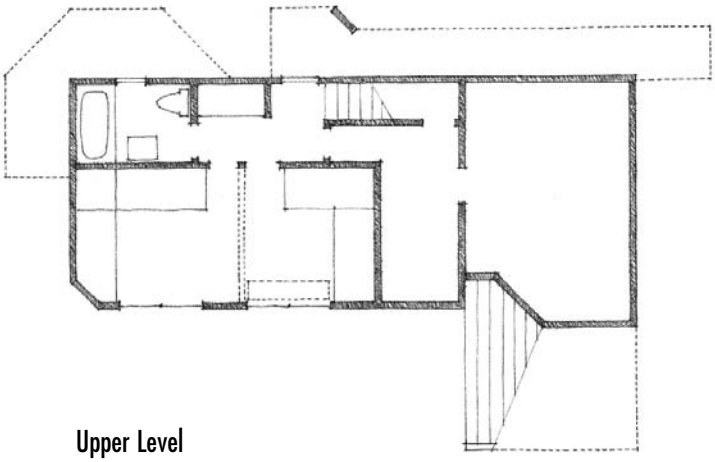




- be merely implied with a change in level or a contrast in surface material or texture between the two spaces. This and the preceding two cases can also be read as single volumes of space which are divided into two related zones.

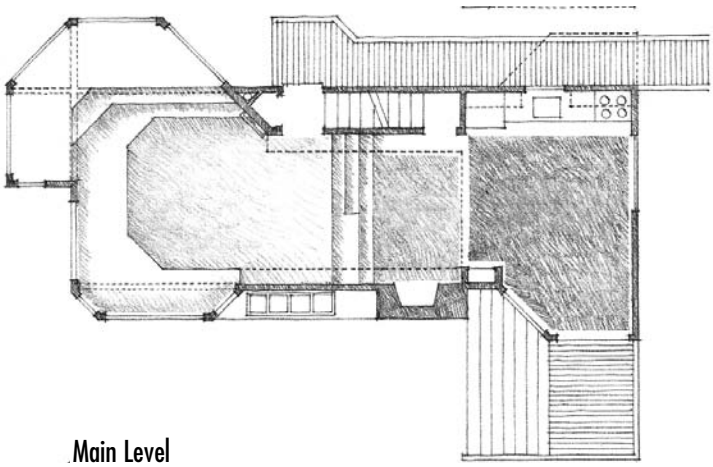


Pavilion Design, 17th century, Fischer von Erlach



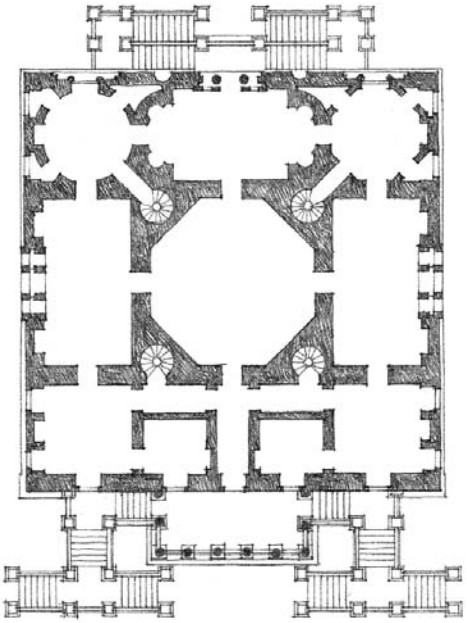
Upper Level

The spaces in these two buildings are individualistic in size, shape, and form. The walls that enclose them adapt their forms to accommodate the differences between adjacent spaces.

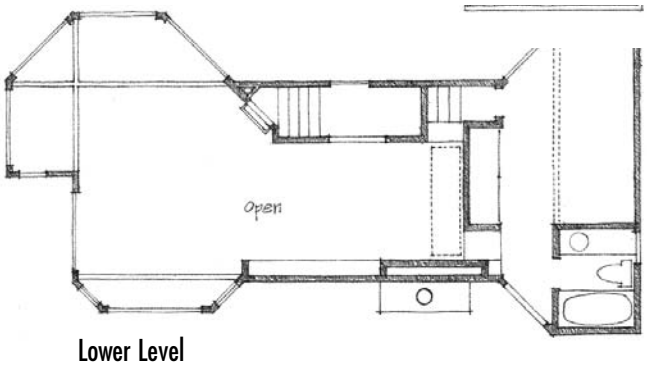


Main Level

Three spaces—the living, fireplace, and dining areas—are defined by changes in floor level, ceiling height, and quality of light and view, rather than by wall planes.



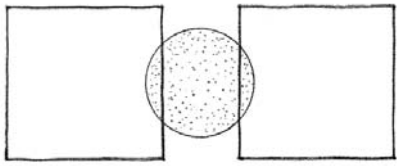
Chiswick House, Chiswick, England, 1729, Lord Burlington & William Kent

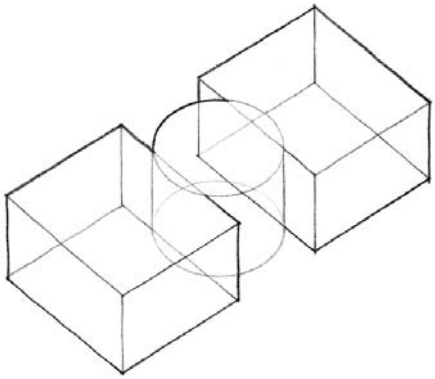


Lower Level

Lawrence House, Sea Ranch, California, 1966, Moore-Turnbull/MLTW

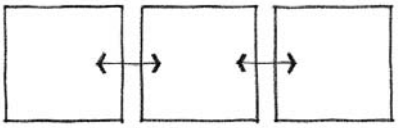
SPACES LINKED BY A COMMON SPACE



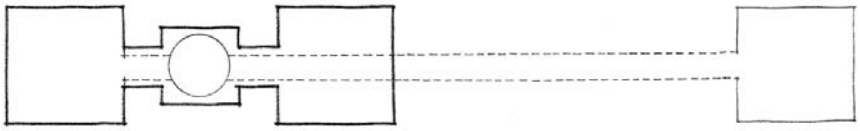


Two spaces that are separated by distance can be linked or related to each other by a third, intermediate, space. The visual and spatial relationship between the two spaces depends on the nature of the third space with which they share a common bond.

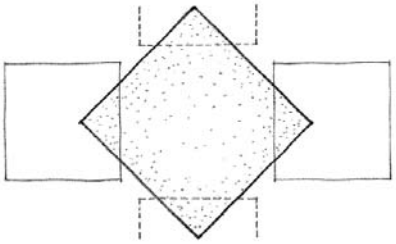
The intermediate space can differ in form and orientation from the two spaces to express its linking function.



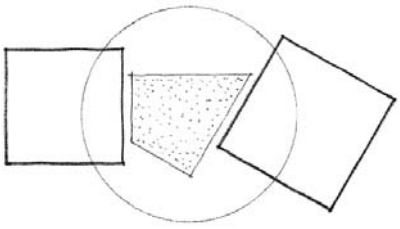
The two spaces, as well as the intermediate space, can be equivalent in size and shape and form a linear sequence of spaces.



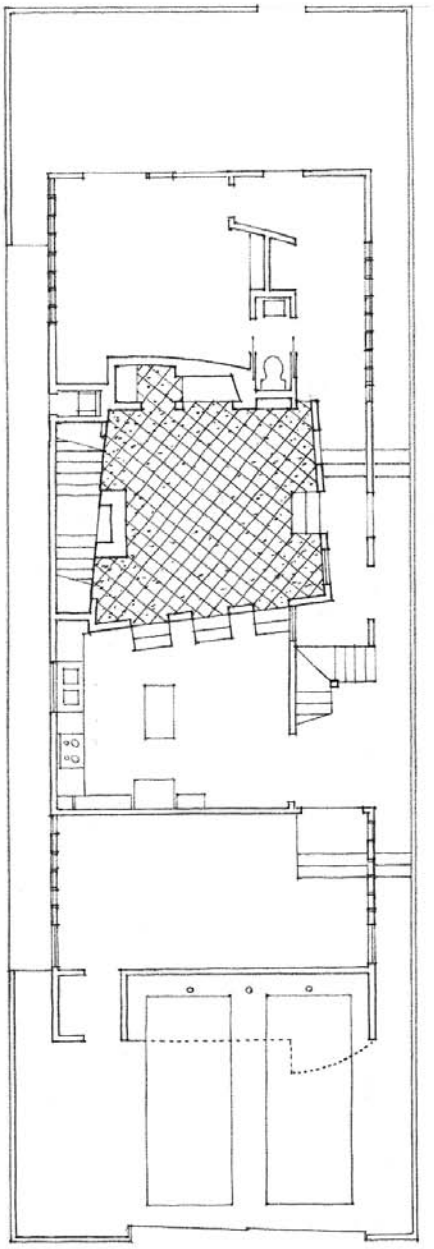
The intermediate space can itself become linear in form to link two spaces that are distant from each other, or join a whole series of spaces that have no direct relationship to one another.



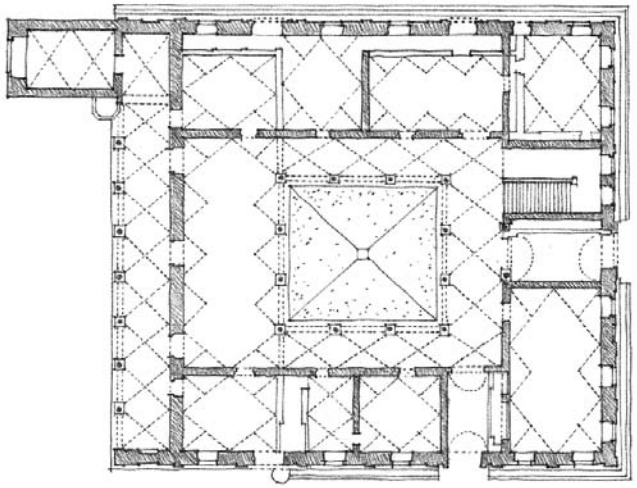
The intermediate space can, if large enough, become the dominant space in the relationship, and be capable of organizing a number of spaces about itself.



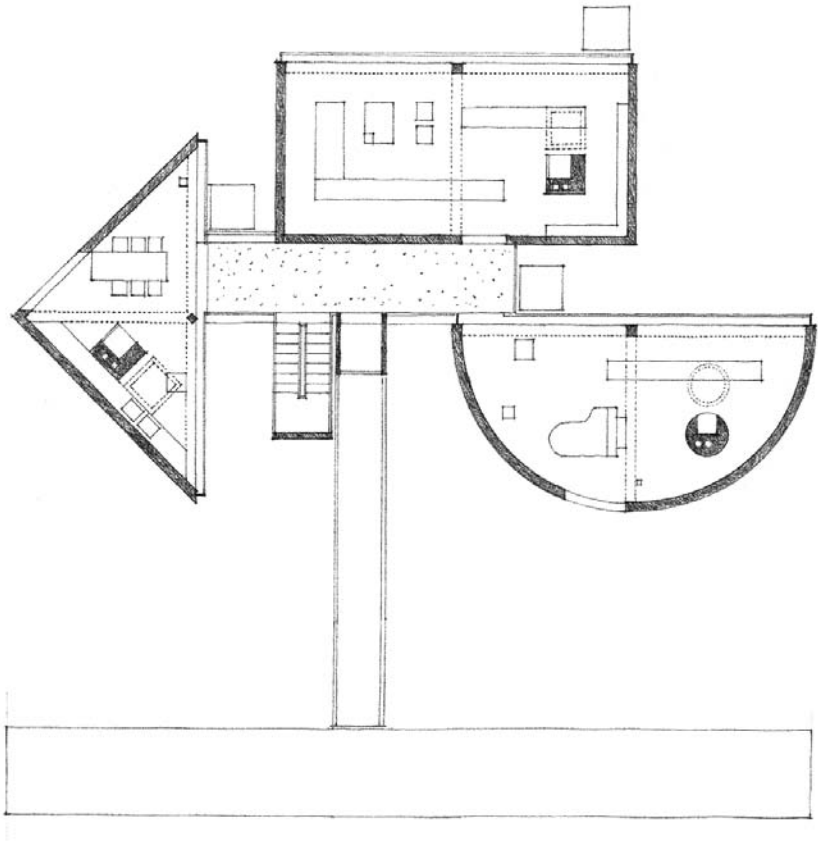
The form of the intermediate space can be residual in nature and be determined solely by the forms and orientations of the two spaces being linked.



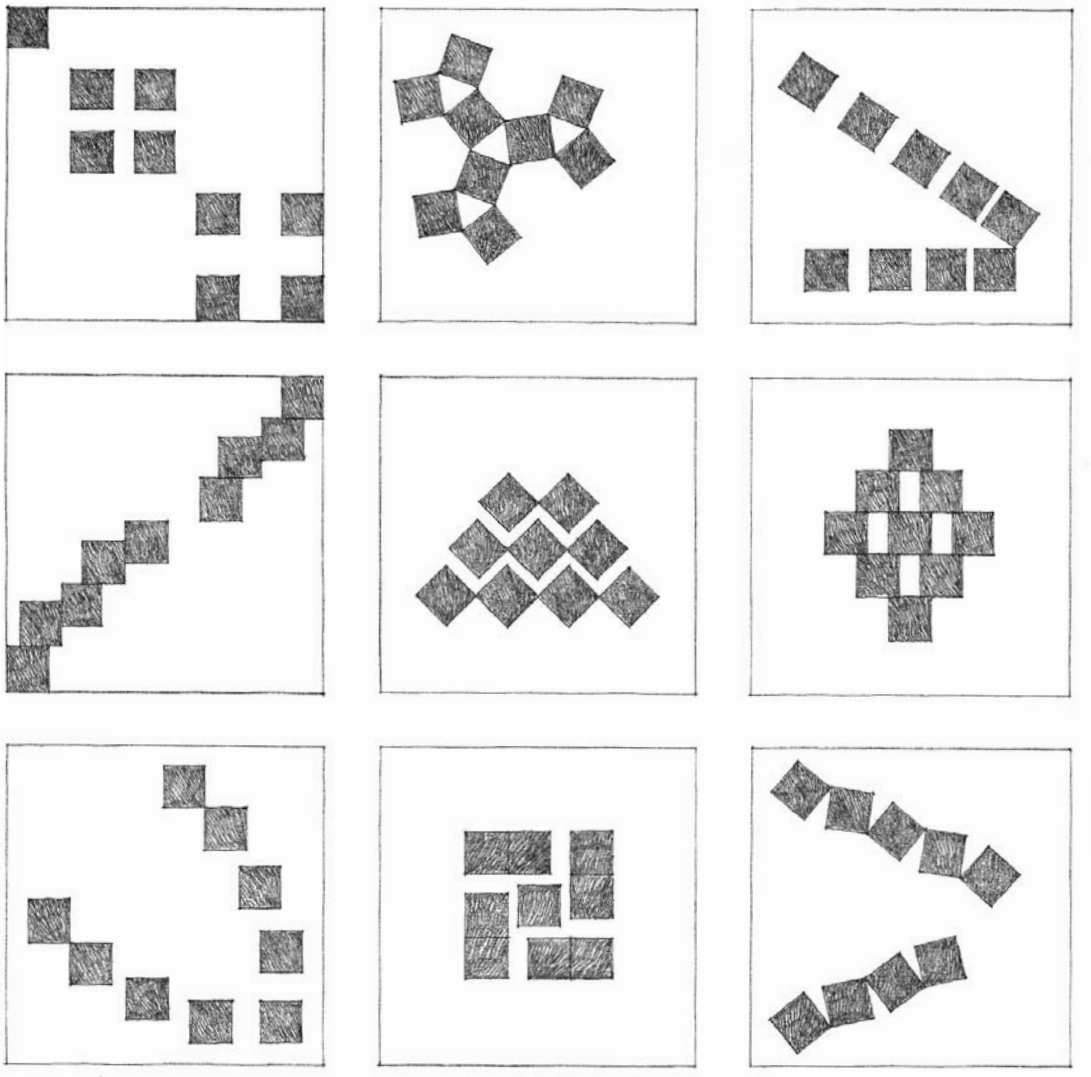
Caplin House, Venice, California, 1979, Frederick Fisher



Palazzo Piccolomini, Pienza, Italy, c. 1460, Bernardo Rosselino



One-half House (Project), 1966, John Hejduk



Compositions of Nine Squares:
A Bauhaus Study

The following section lays out the basic ways we can arrange and organize the spaces of a building. In a typical building program, there are usually requirements for various kinds of spaces. There may be requirements for spaces that:

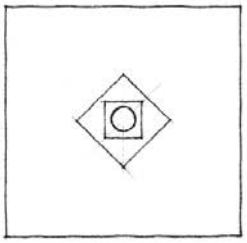
- have specific functions or require specific forms
- are flexible in use and can be freely manipulated
- are singular and unique in their function or significance to the building organization
- have similar functions and can be grouped into a functional cluster or repeated in a linear sequence
- require exterior exposure for light, ventilation, outlook, or access to outdoor spaces
- must be segregated for privacy
- must be easily accessible

The manner in which these spaces are arranged can clarify their relative importance and functional or symbolic role in the organization of a building. The decision as to what type of organization to use in a specific situation will depend on:

- demands of the building program, such as functional proximities, dimensional requirements, hierarchical classification of spaces, and requirements for access, light, or view
- exterior conditions of the site that might limit the organization's form or growth, or that might encourage the organization to address certain features of its site and turn away from others

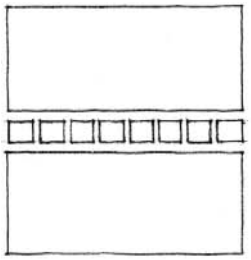
Each type of spatial organization is introduced by a section that discusses the formal characteristics, spatial relationships, and contextual responses of the category. A range of examples then illustrates the basic points made in the introduction. Each of the examples should be studied in terms of:

- What kinds of spaces are accommodated and where? How are they defined?
- What kinds of relationships are established among the spaces, one to another, and to the exterior environment?
- Where can the organization be entered and what configuration does the path of circulation have?
- What is the exterior form of the organization and how might it respond to its context?



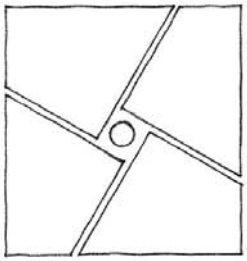
Centralized Organization

A central, dominant space about which a number of secondary spaces are grouped



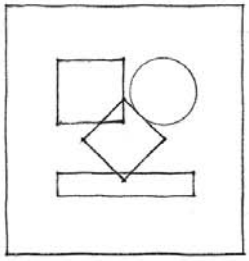
Linear Organization

A linear sequence of repetitive spaces



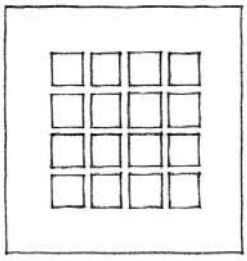
Radial Organization

A central space from which linear organizations of space extend in a radial manner



Clustered Organization

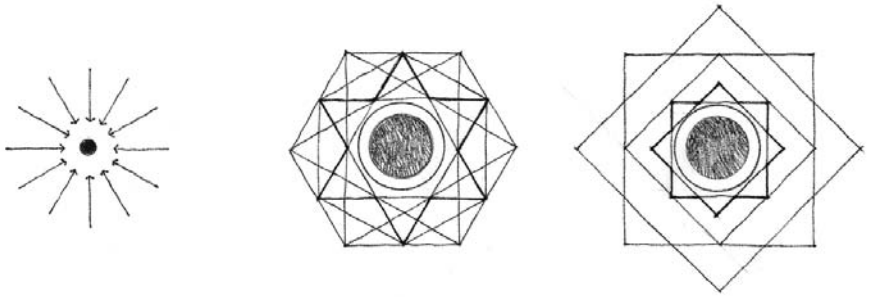
Spaces grouped by proximity or the sharing of a common visual trait or relationship



Grid Organization

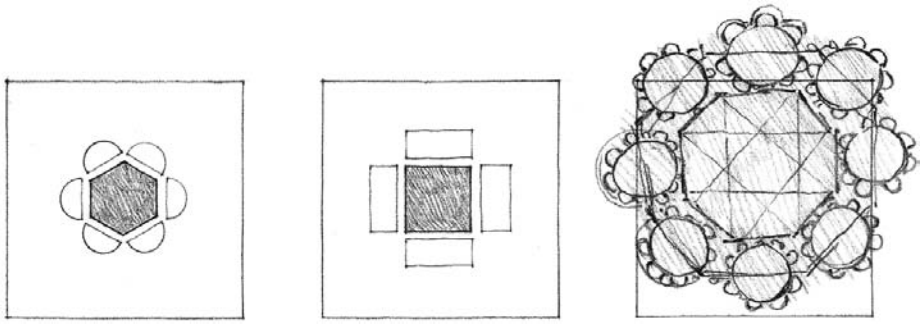
Spaces organized within the field of a structural grid or other three-dimensional framework

CENTRALIZED ORGANIZATIONS



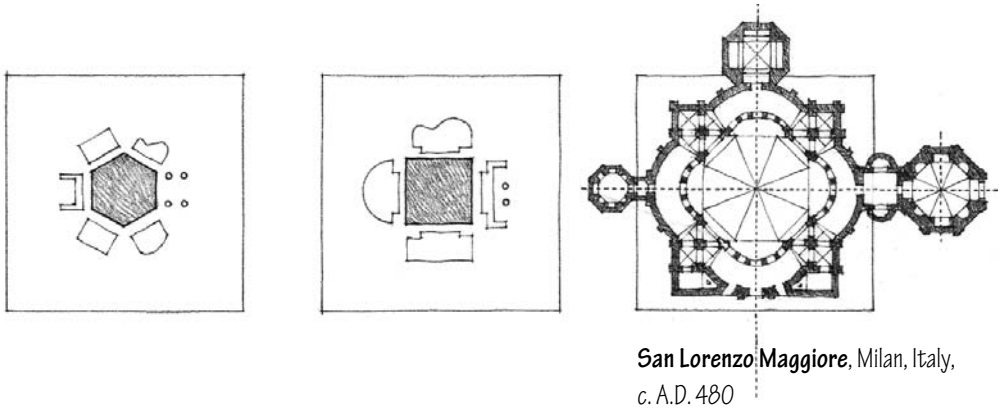
A centralized organization is a stable, concentrated composition that consists of a number of secondary spaces grouped around a large, dominant, central space.

The central, unifying space of the organization is generally regular in form and large enough in size to gather a number of secondary spaces about its perimeter.



Ideal Church by Leonardo Da Vinci

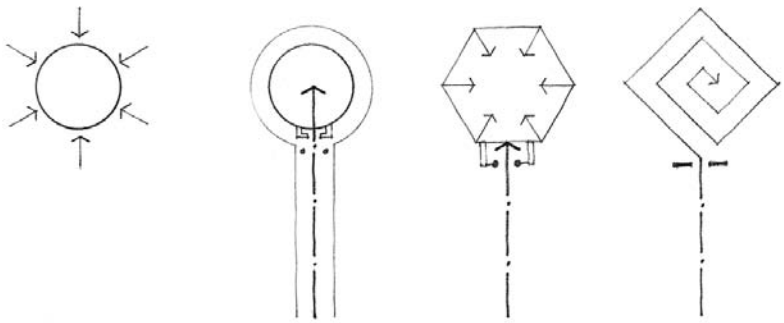
The secondary spaces of the organization may be equivalent to one another in function, form, and size, and create an overall configuration that is geometrically regular and symmetrical about two or more axes.



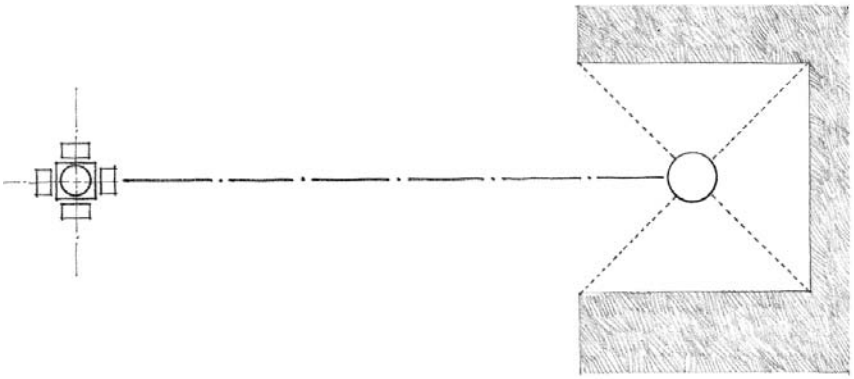
San Lorenzo Maggiore, Milan, Italy, c. A.D. 480

The secondary spaces may differ from one another in form or size in order to respond to individual requirements of function, express their relative importance, or acknowledge their surroundings. This differentiation among the secondary spaces also allows the form of a centralized organization to respond to the environmental conditions of its site.

Since the form of a centralized organization is inherently non-directional, conditions of approach and entry must be specified by the site and the articulation of one of the secondary spaces as an entrance or gateway.



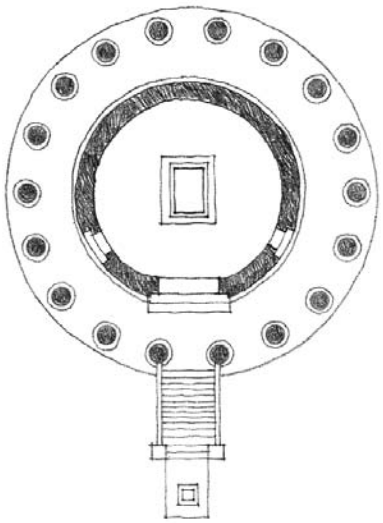
The pattern of circulation and movement within a centralized organization may be radial, loop, or spiral in form. In almost every case, however, the pattern will terminate in or around the central space.

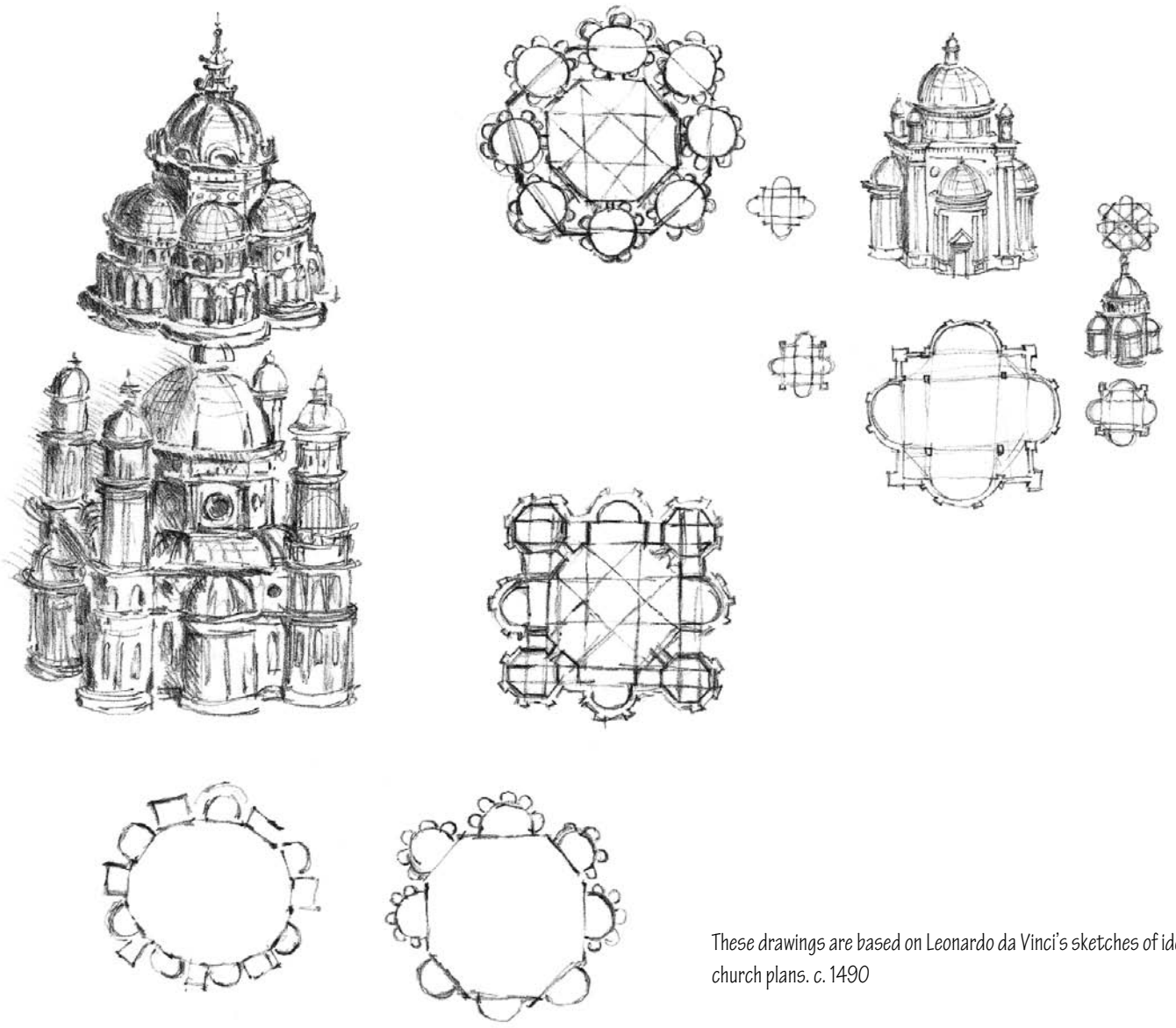


Centralized organizations whose forms are relatively compact and geometrically regular can be used to:

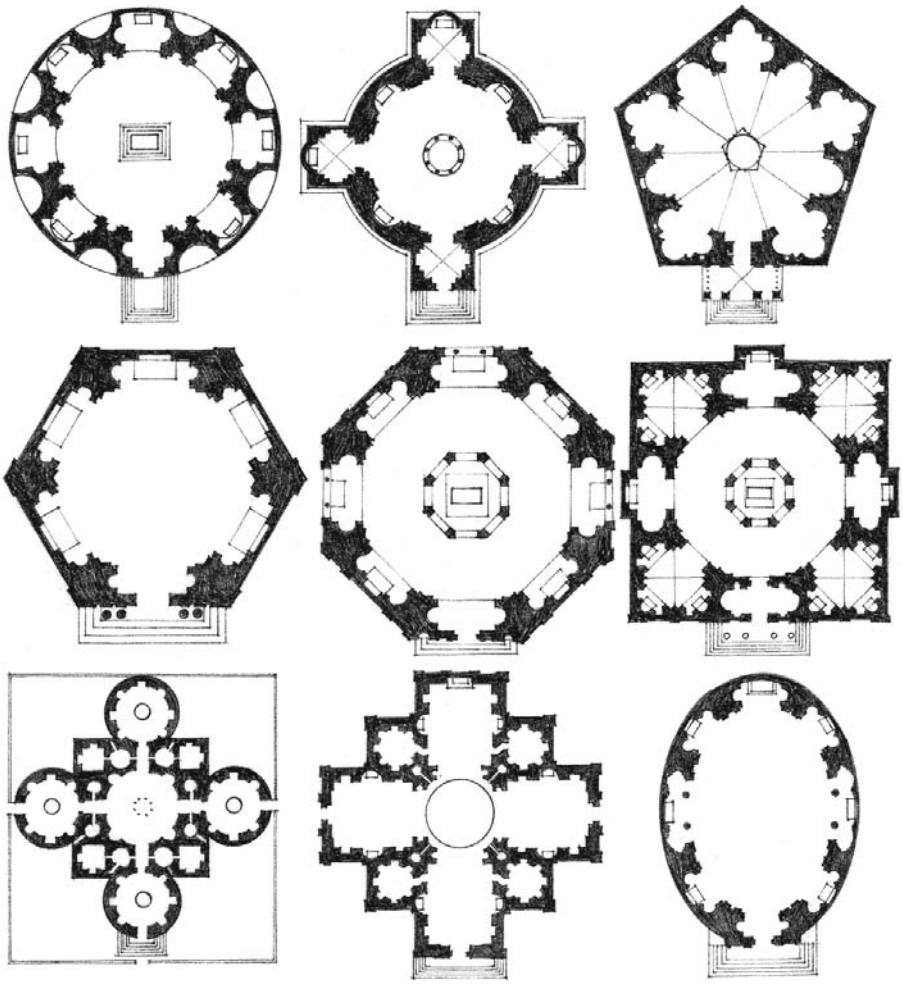
- establish points or places in space
- terminate axial conditions
- serve as an object-form within a defined field or volume of space

The central organizing space may be either an interior or an exterior space.

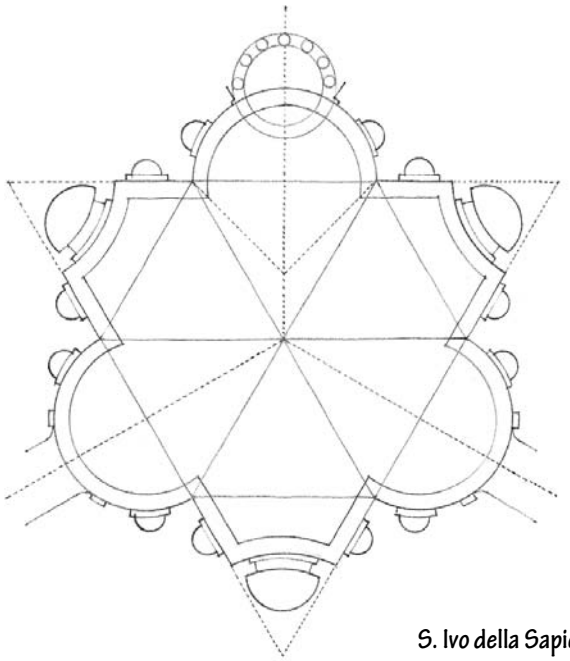




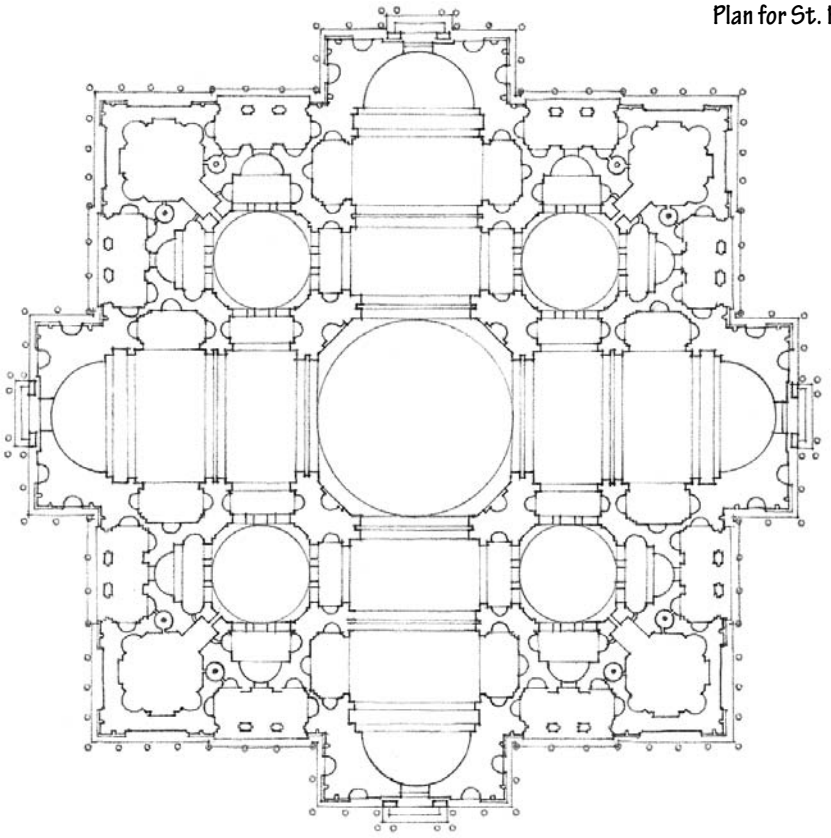
These drawings are based on Leonardo da Vinci's sketches of ideal church plans. c. 1490



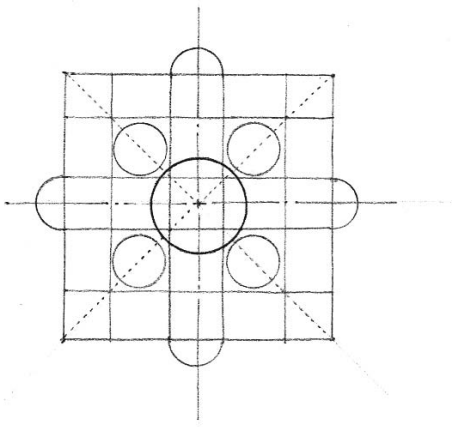
Centralized Plans, 1547, Sebastiano Serlio

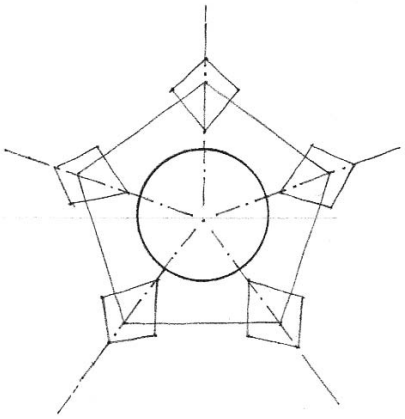


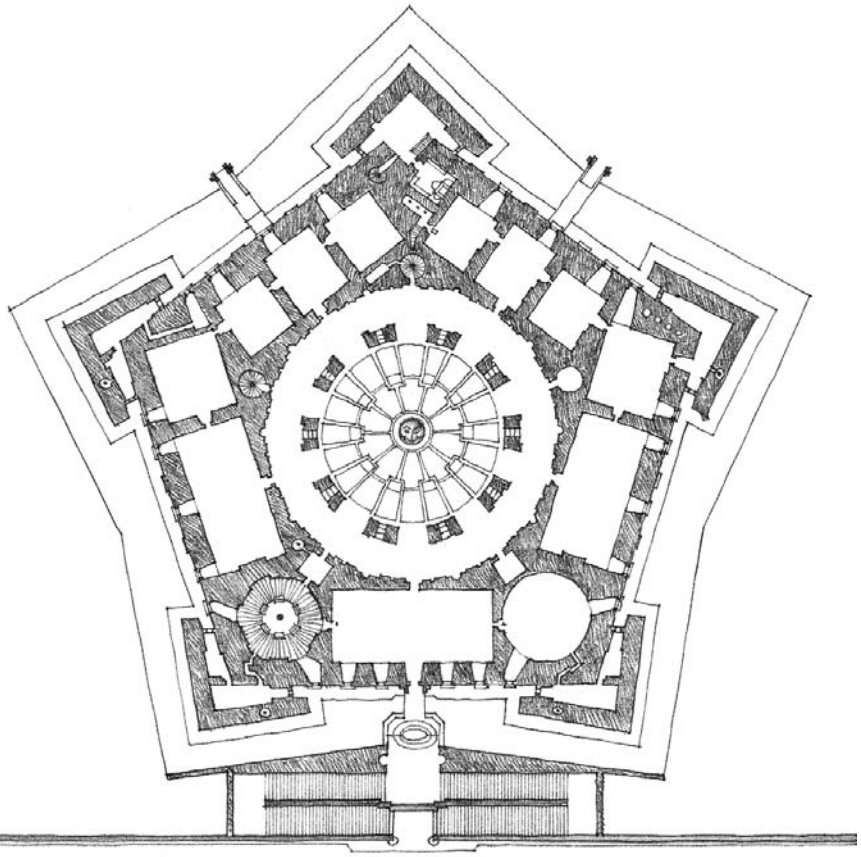
S. Ivo della Sapienze, Rome, 1642–50, Francesco Borromini



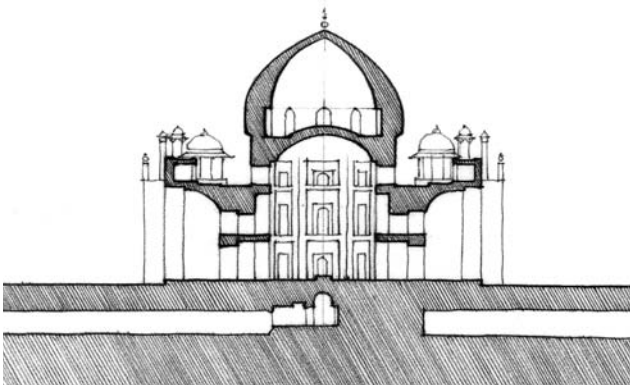
Plan for St. Peter's (First Version), Rome, c. 1503, Donato Bramante

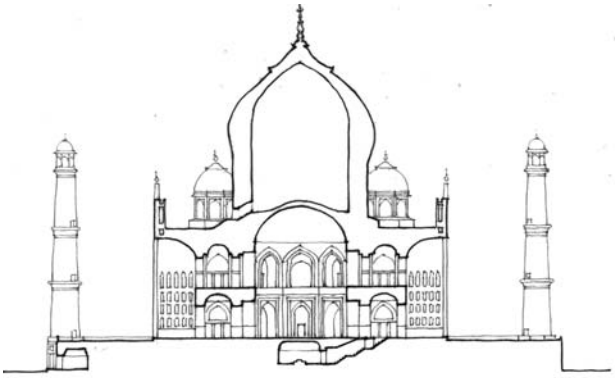




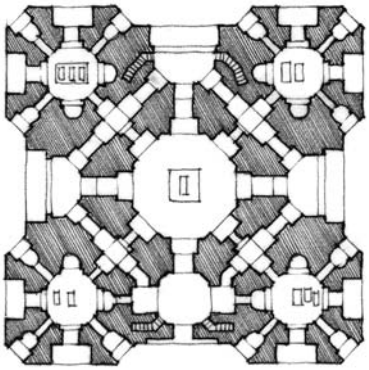


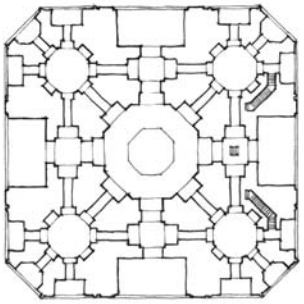
Palazzo Farnese, Caprarola, 1547–49, Giacomo da Vignola



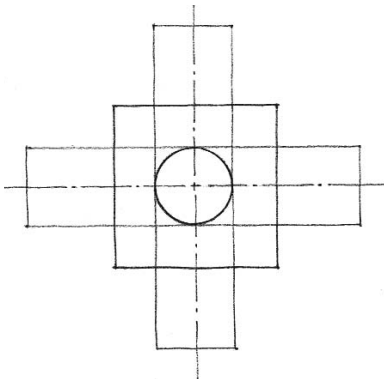


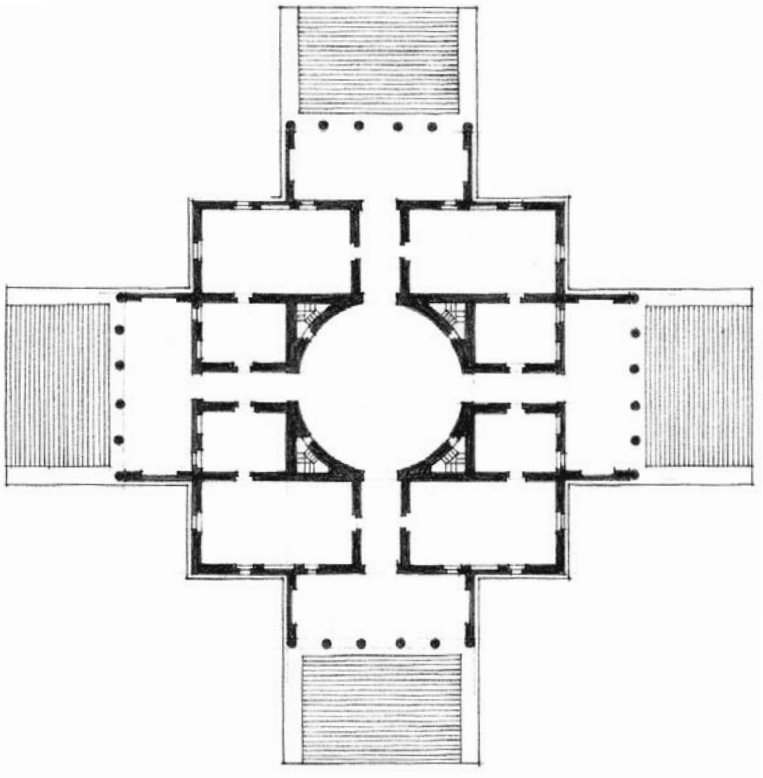
Taj Mahal, Agra, India, 1632–54



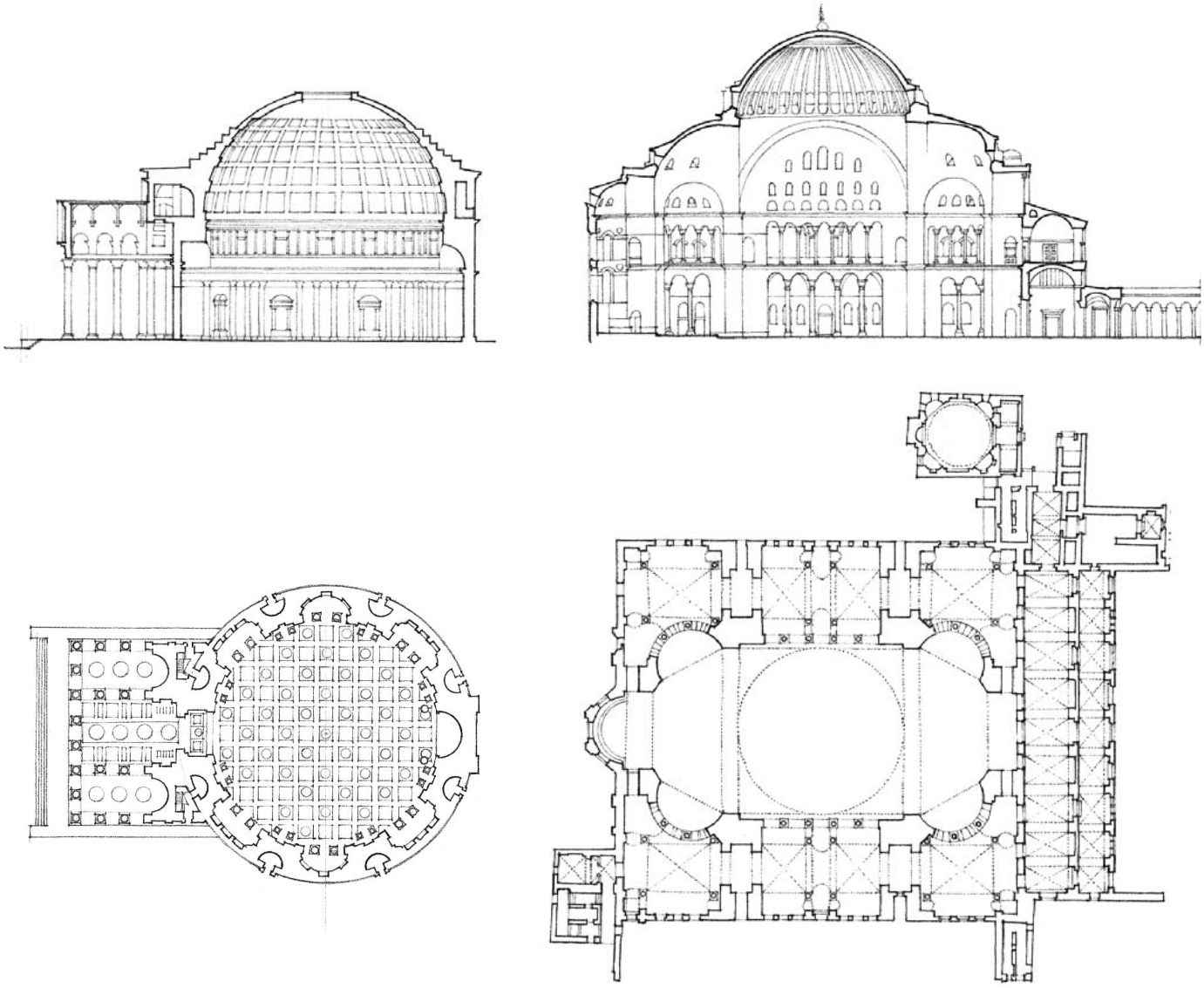


Humayun's Tomb, Delhi, India, 1565



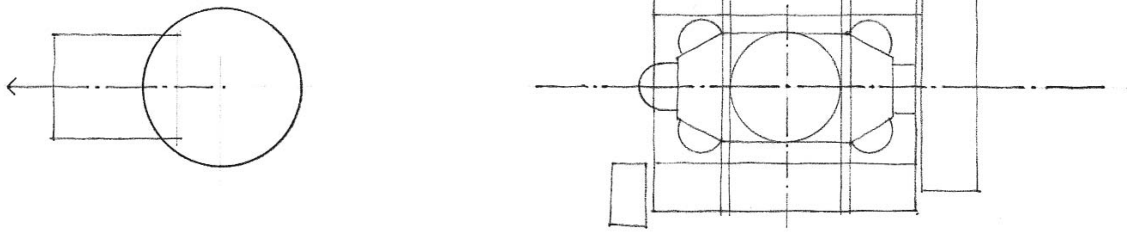


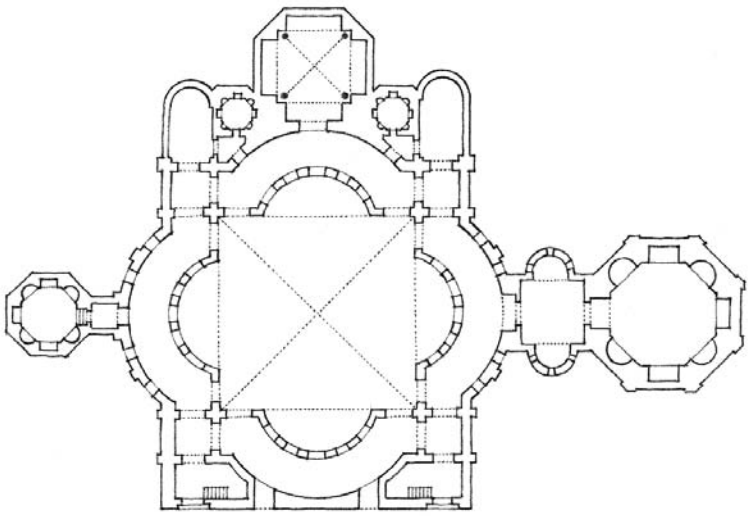
Villa Capra (The Rotunda), Vicenza, Italy, 1552–67, Andrea Palladio



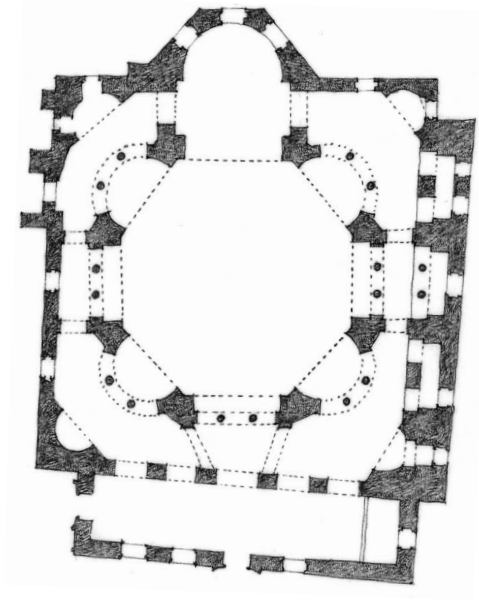
The Pantheon, Rome, A.D. 120–24. Portico from temple of 25 B.C.

Hagia Sophia, Constantinople (Istanbul), A.D. 532–37, Anthemius of Tralles and Isidorus of Miletus

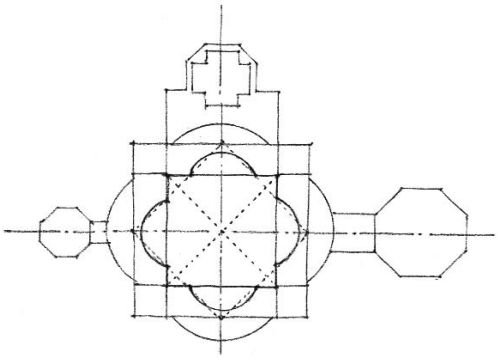


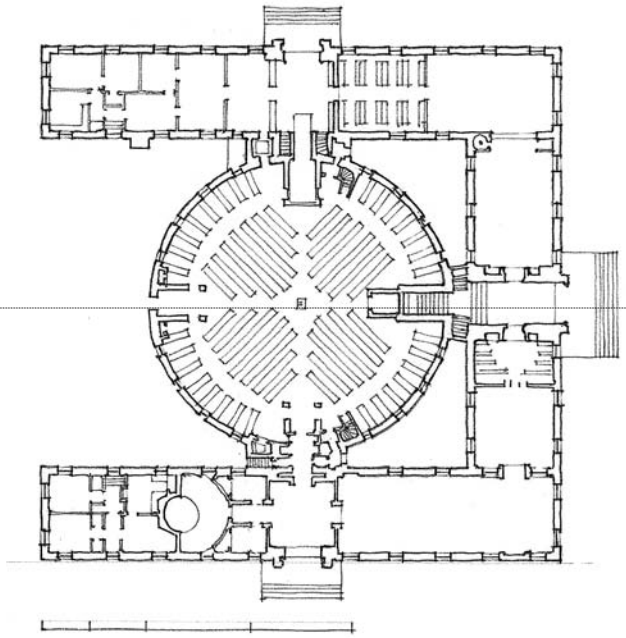


San Lorenzo Maggiore, Milan, Italy, *c.* A.D. 480

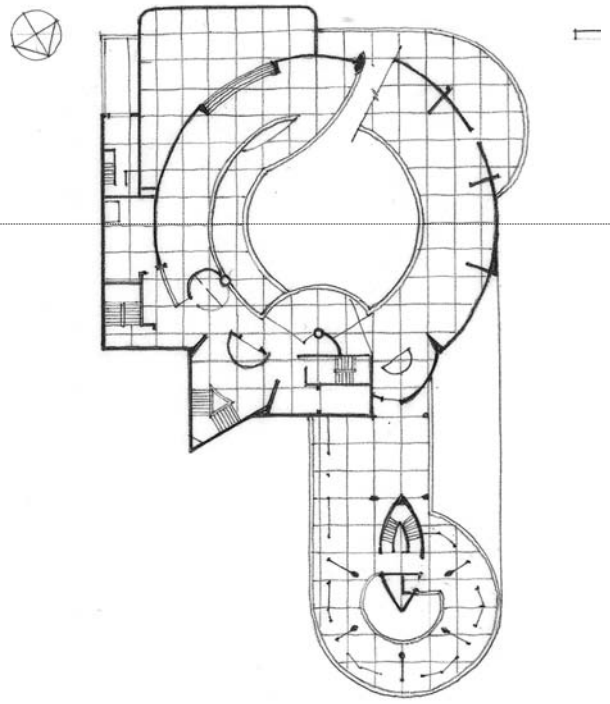


SS. Sergio and Bacchus, Constantinople (Istanbul), Turkey, A.D. 525–30

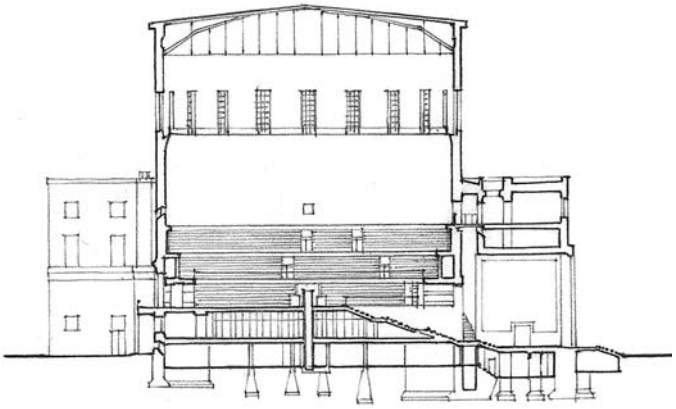


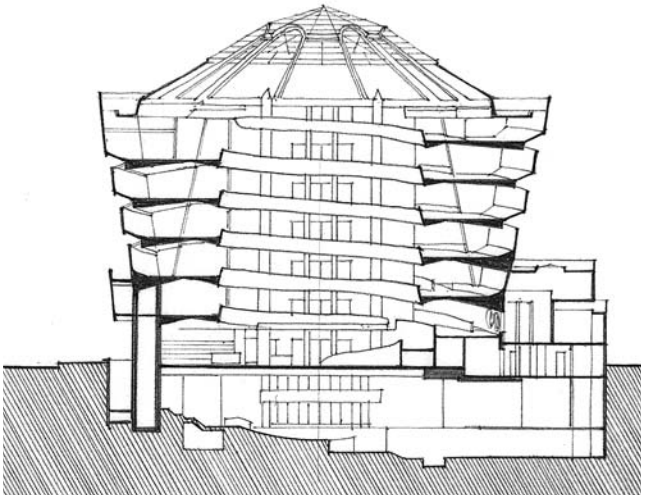


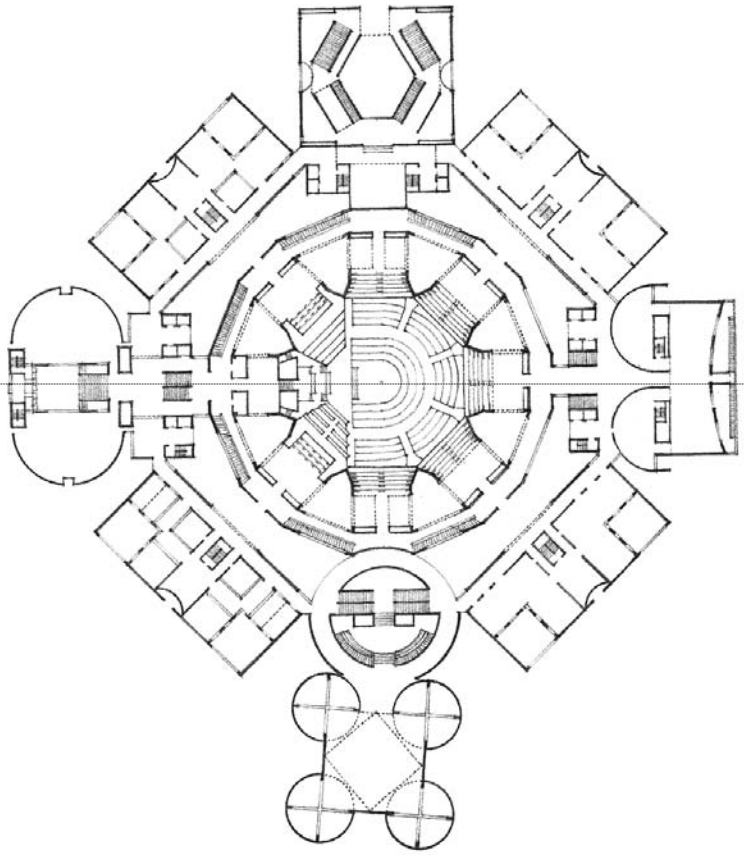
Stockholm Public Library, 1920–28, Gunnar Asplund



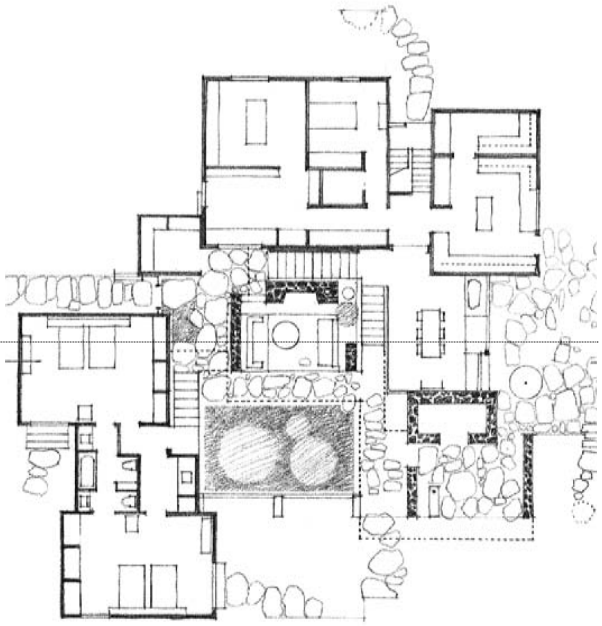
Guggenheim Museum, New York City, 1943–59, Frank Lloyd Wright



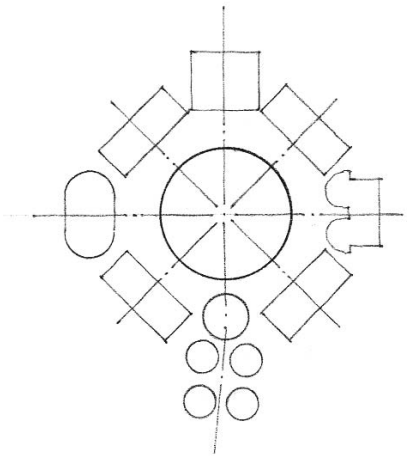


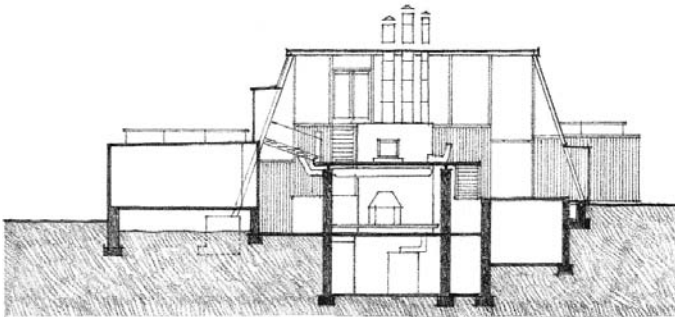


National Assembly Building, Capitol Complex at Dacca, Bangladesh, begun 1962, Louis Kahn

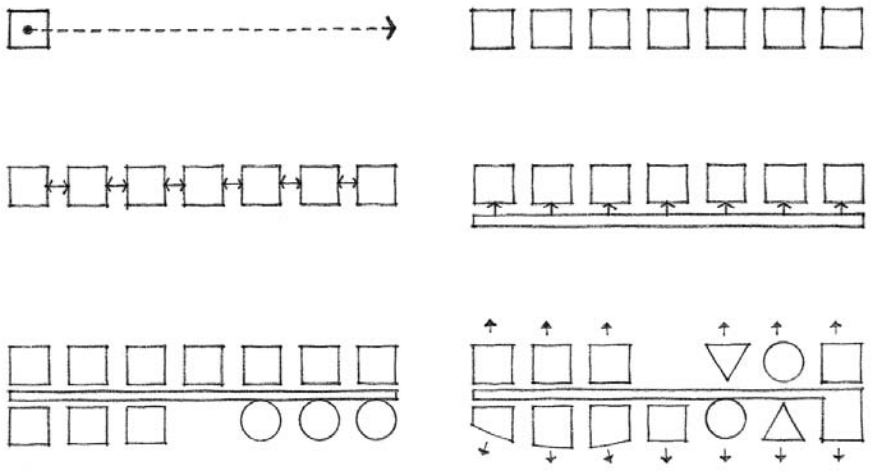


Greenhouse House, Connecticut, 1973–75, John M. Johansen



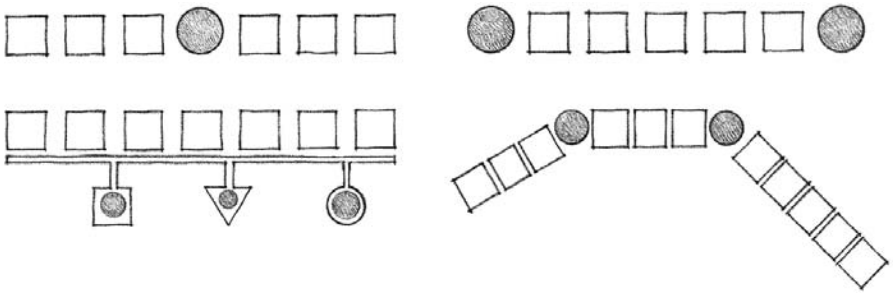


LINEAR ORGANIZATIONS



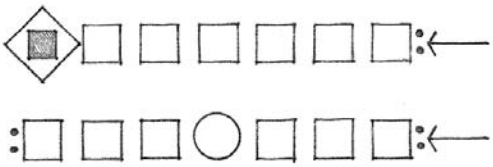
A linear organization consists essentially of a series of spaces. These spaces can either be directly related to one another or be linked through a separate and distinct linear space.

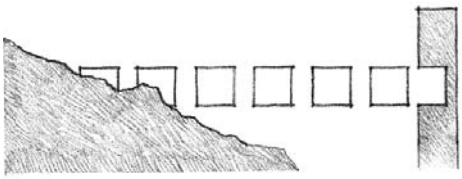
A linear organization usually consists of repetitive spaces which are alike in size, form, and function. It may also consist of a single linear space that organizes along its length a series of spaces that differ in size, form, or function. In both cases, each space along the sequence has an exterior exposure.



Spaces that are functionally or symbolically important to the organization can occur anywhere along the linear sequence and have their importance articulated by their size and form. Their significance can also be emphasized by their location:

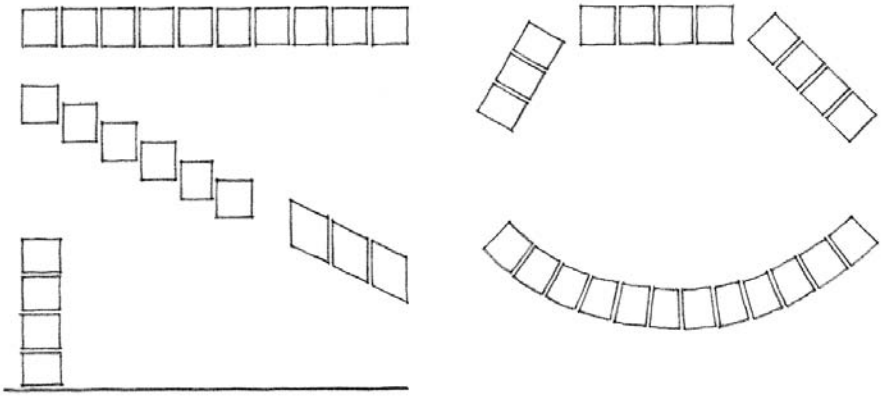
- at the end of the linear sequence
- offset from the linear organization
- at pivotal points of a segmented linear form





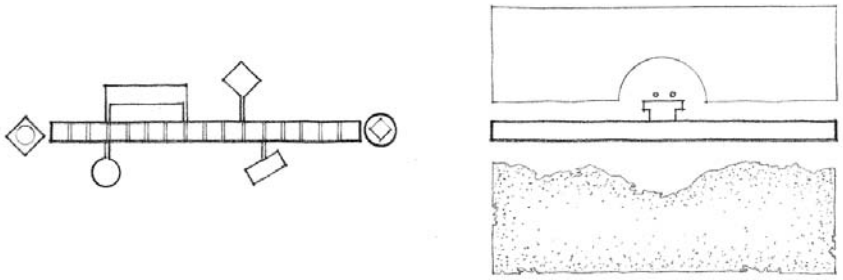
Because of their characteristic length, linear organizations express a direction and signify movement, extension, and growth. To limit their growth, linear organizations can be terminated by a dominant space or form, by an elaborate or articulated entrance, or by merging with another building form or the topography of its site.

The form of a linear organization is inherently flexible and can respond readily to various conditions of its site. It can adapt to changes in topography, maneuver around a body of water or a stand of trees, or turn to orient spaces to capture sunlight and views. It can be straight, segmented, or curvilinear. It can run horizontally across its site, diagonally up a slope, or stand vertically as a tower.

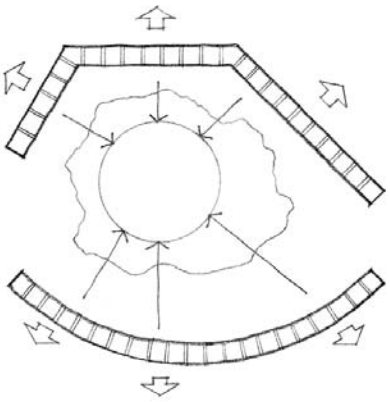


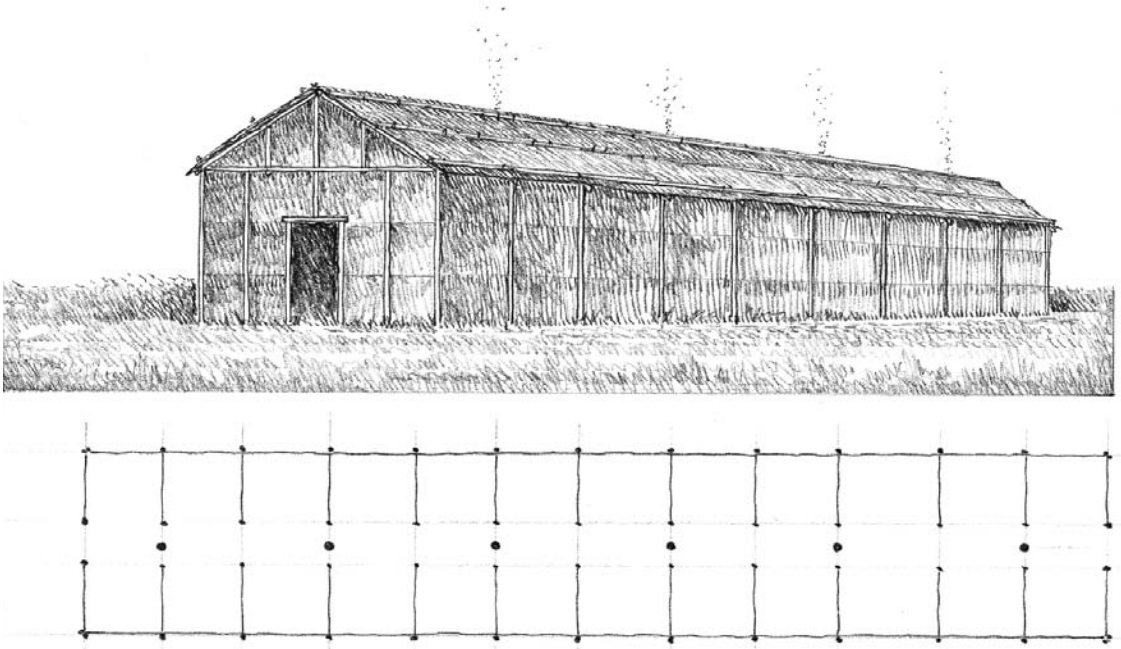
The form of a linear organization can relate to other forms in its context by:

- linking and organizing them along its length
- serving as a wall or barrier to separate them into different fields
- surrounding and enclosing them within a field of space

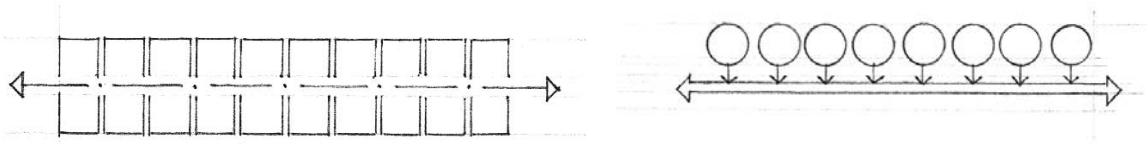


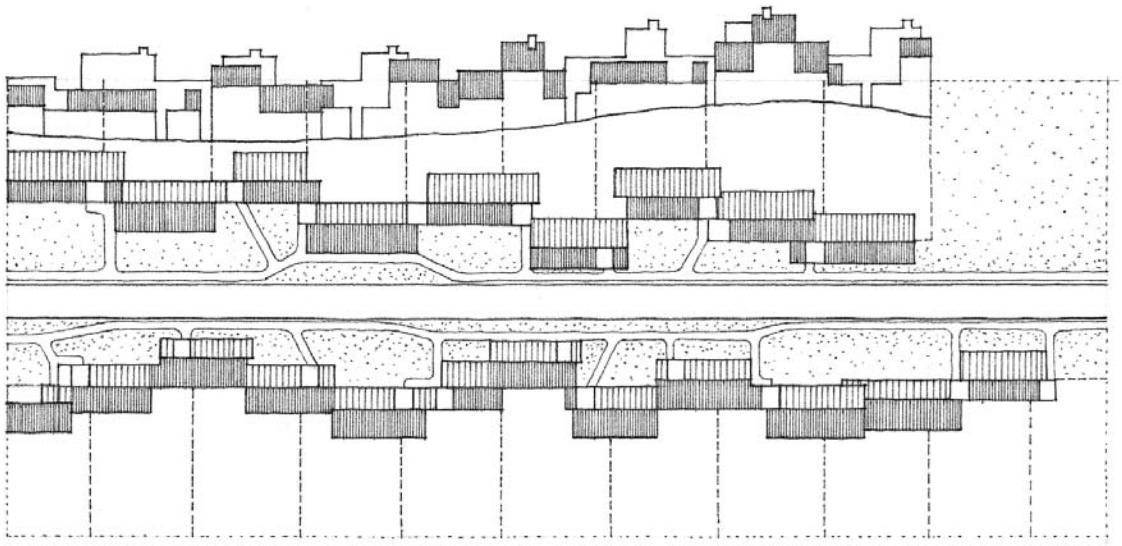
Curved and segmented forms of linear organizations enclose a field of exterior space on their concave sides and orient their spaces toward the center of the field. On their concave sides, these forms appear to front space and exclude it from their fields.



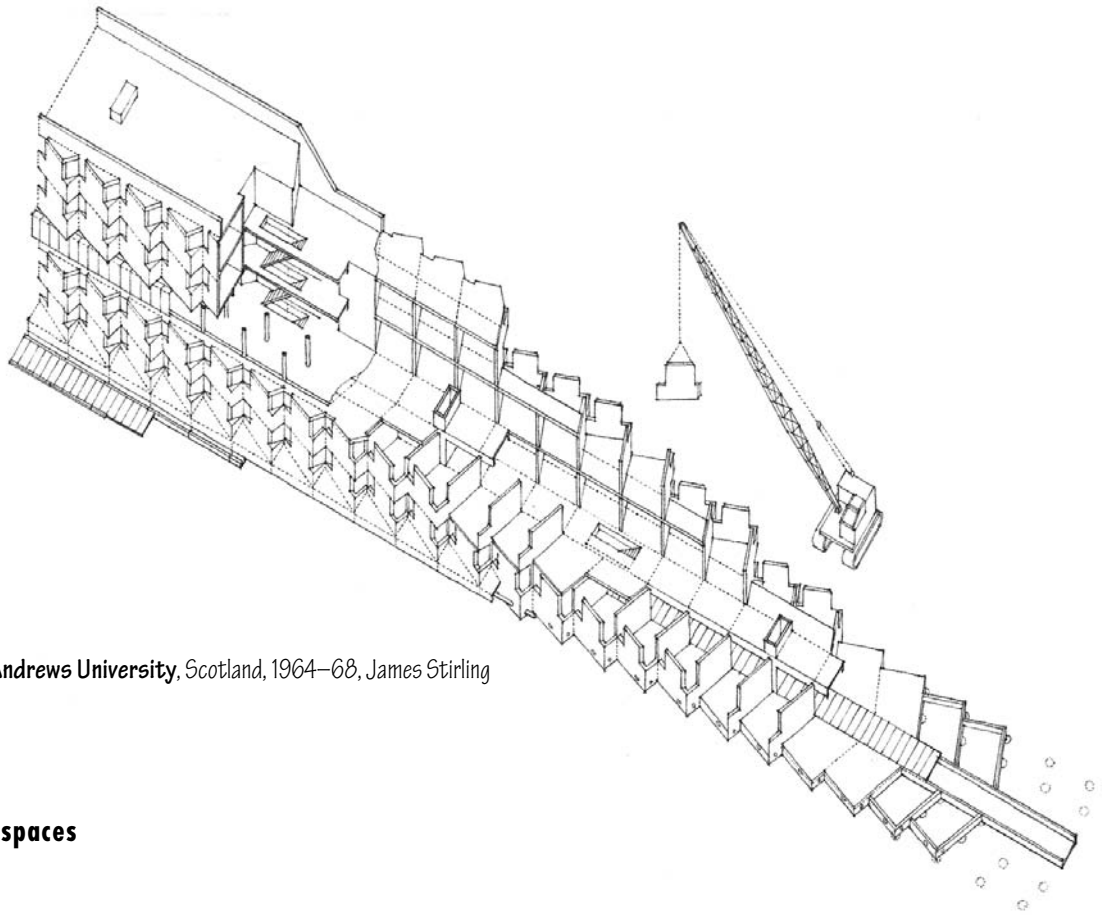


Longhouse, *a dwelling type of the member tribes of the Iroquois Confederacy in North America, c. 1600.*



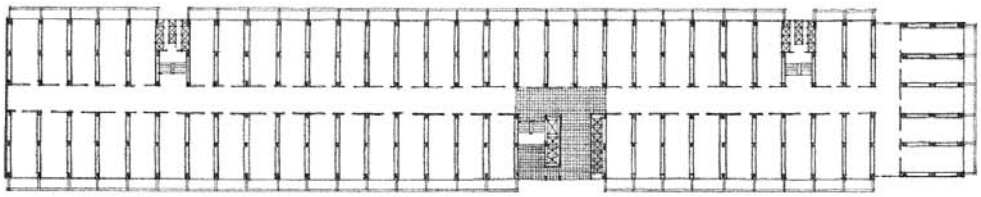


Terraced Housing Fronting a Village Street, **Village Project**, *1955, James Stirling (Team X)*

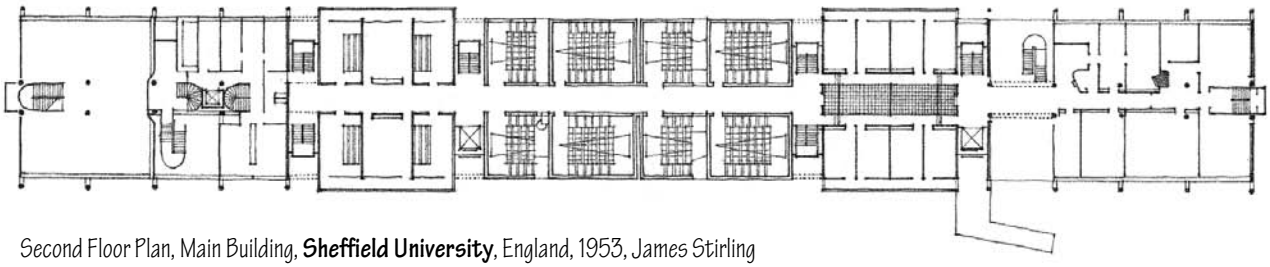


Residential Expansion, **St. Andrews University**, Scotland, 1964–68, James Stirling

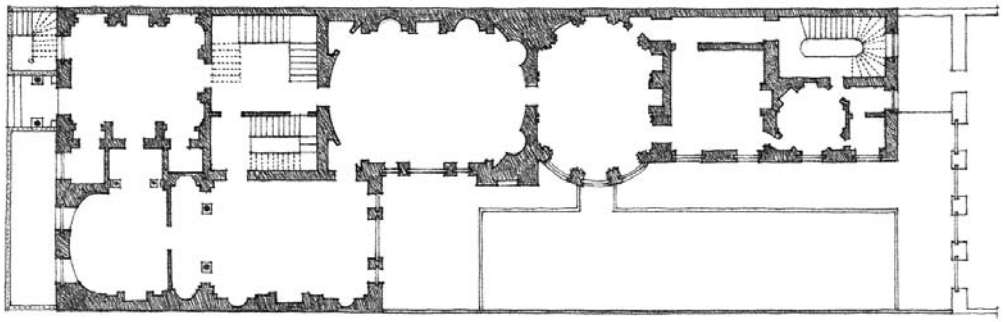
Linear sequences of spaces



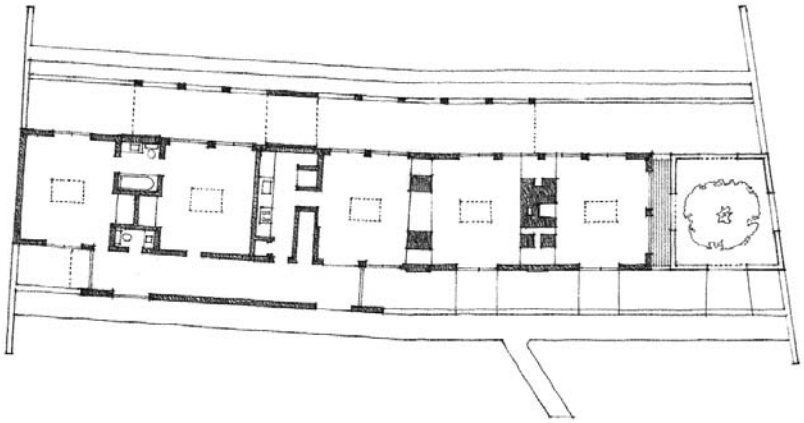
Typical Apartment Floor, **Unité d'Habitation**, Marseilles, 1946–52, Le Corbusier



Second Floor Plan, Main Building, **Sheffield University**, England, 1953, James Stirling

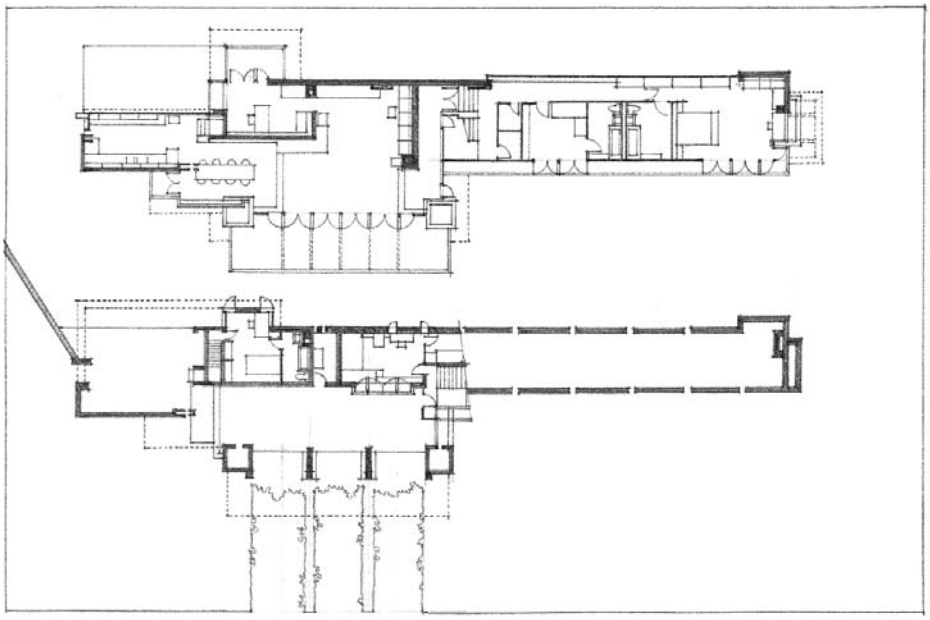


Lord Derby's House, London, 1777, Robert Adam

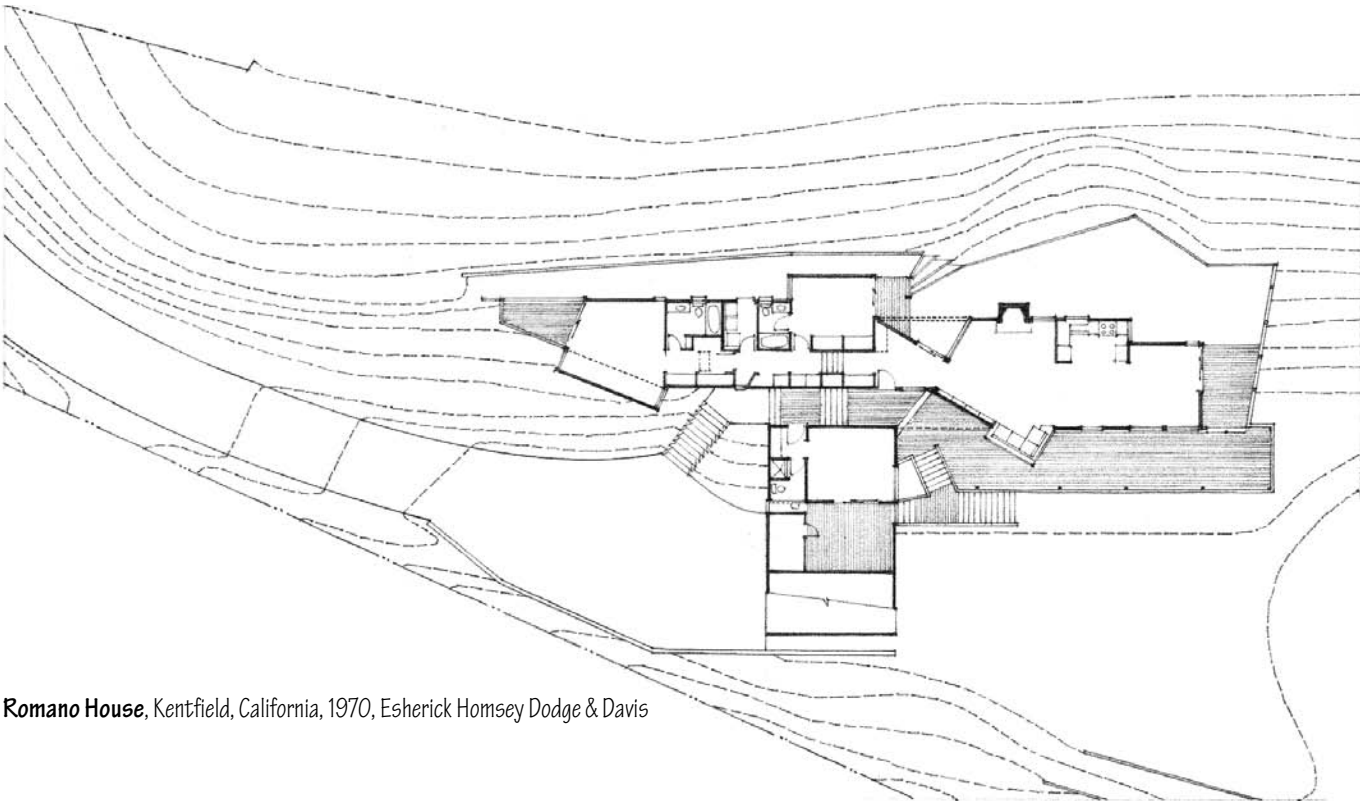


Pearson House (Project), 1957, Robert Venturi

Linear sequences of rooms...

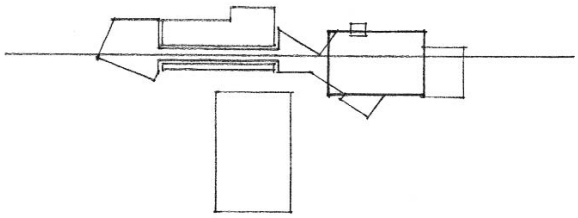


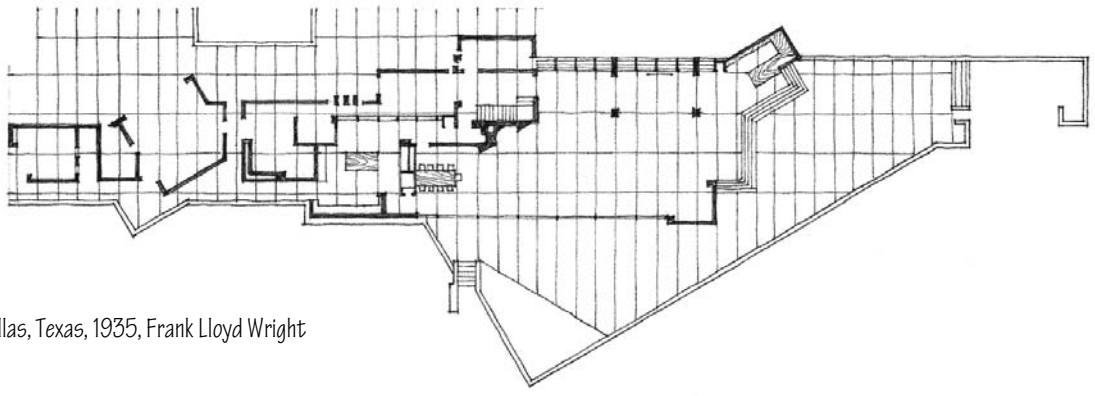
Lloyd Lewis House, Libertyville, Illinois, 1940, Frank Lloyd Wright



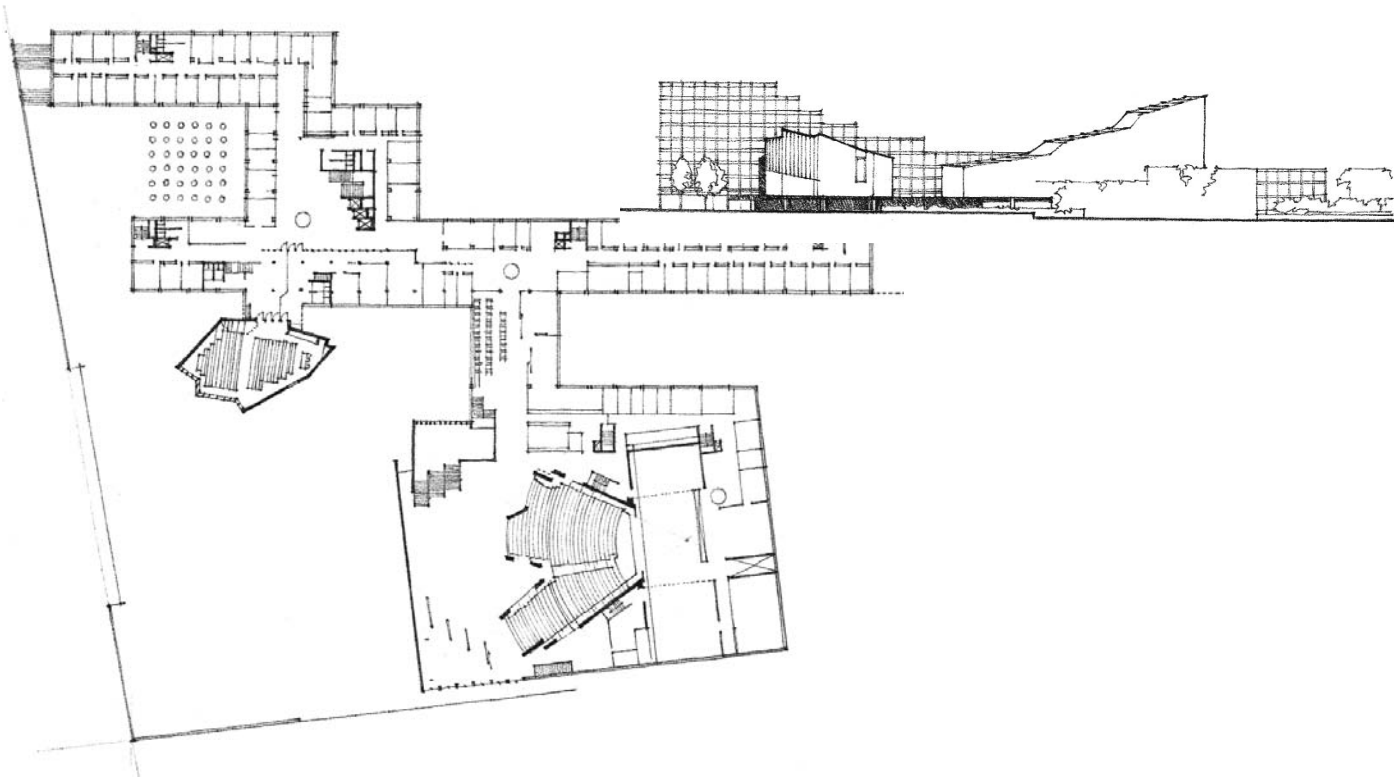
Romano House, Kentfield, California, 1970, Esherick Homsey Dodge & Davis

adapting to function and site



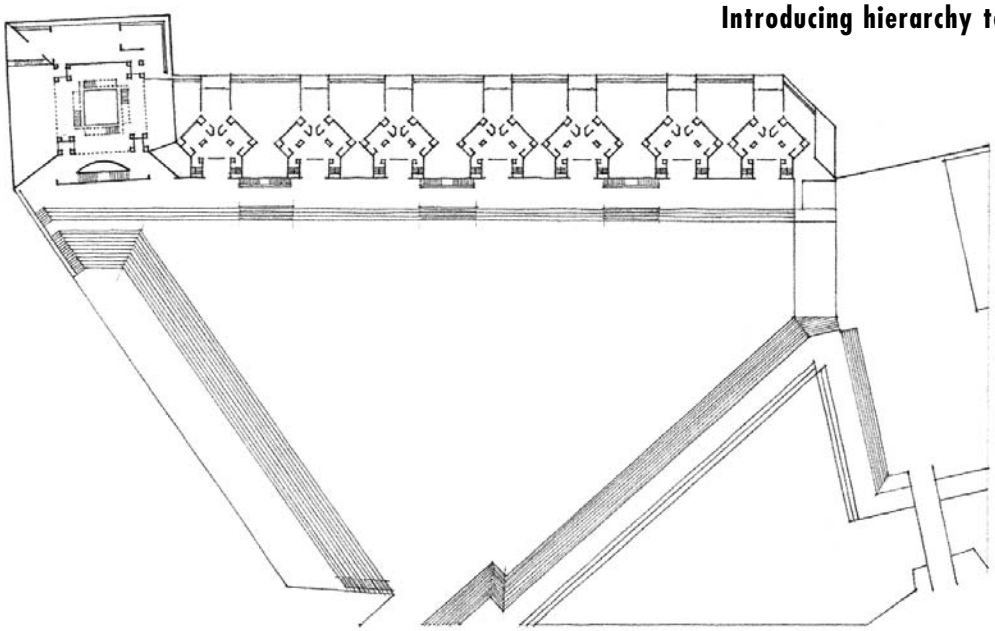


Marcus House (Project), Dallas, Texas, 1935, Frank Lloyd Wright

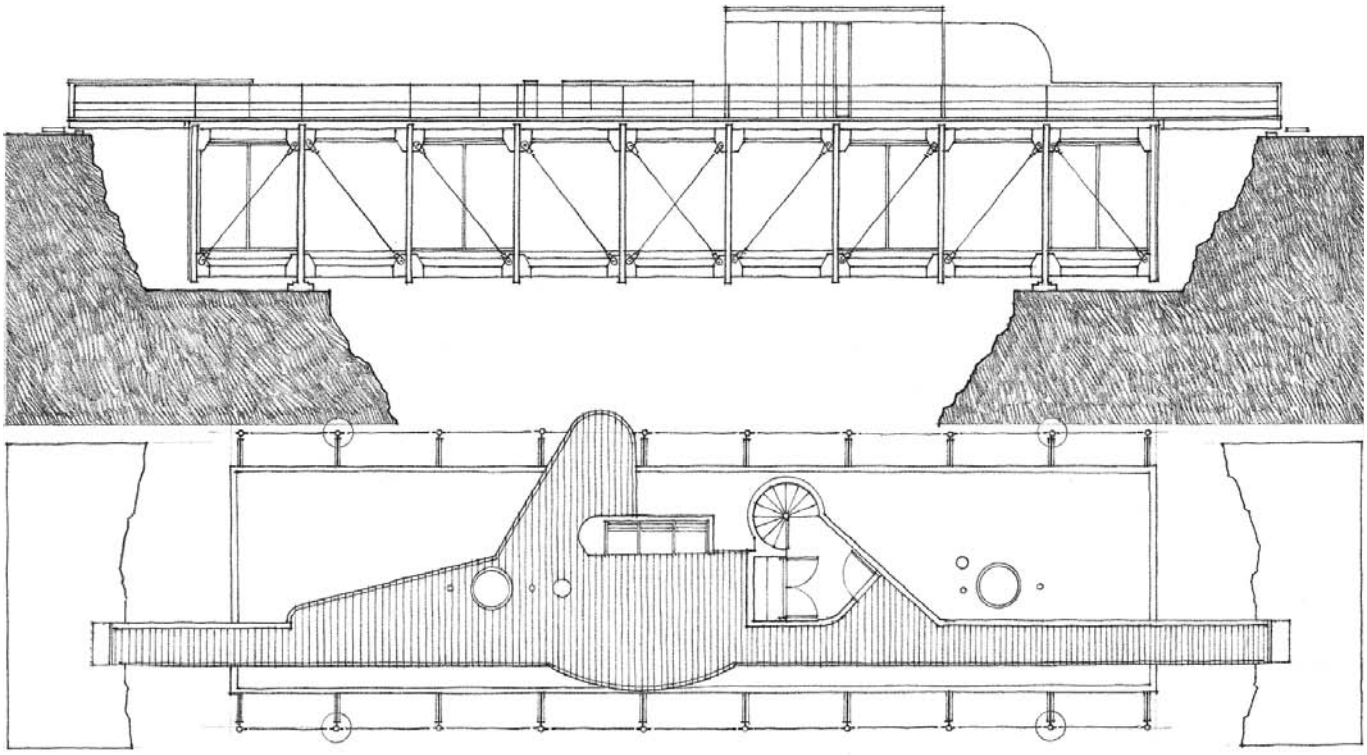


Town Center for Castrop-Rauxel, *Germany, (Competition Entry), 1965, Alvar Aalto*

Introducing hierarchy to linear sequences...

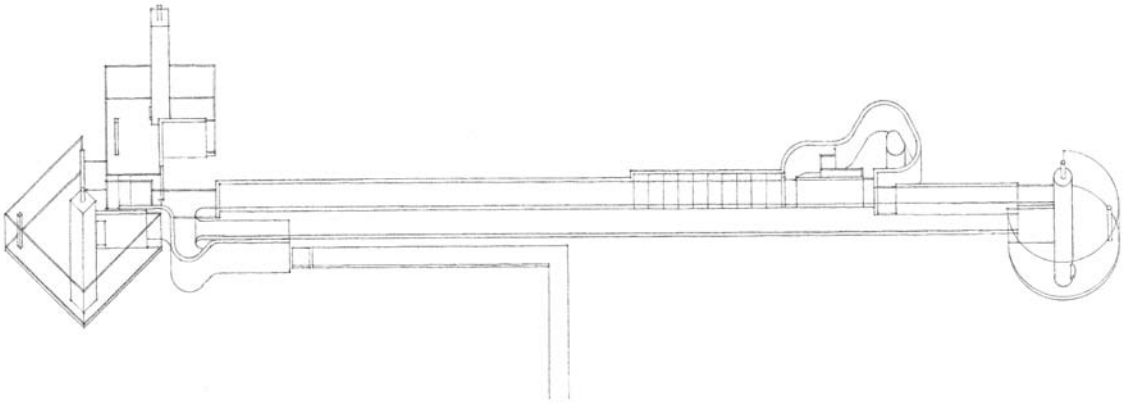


Interama, Project for an Inter-American Community, *Florida, 1964–67, Louis Kahn*

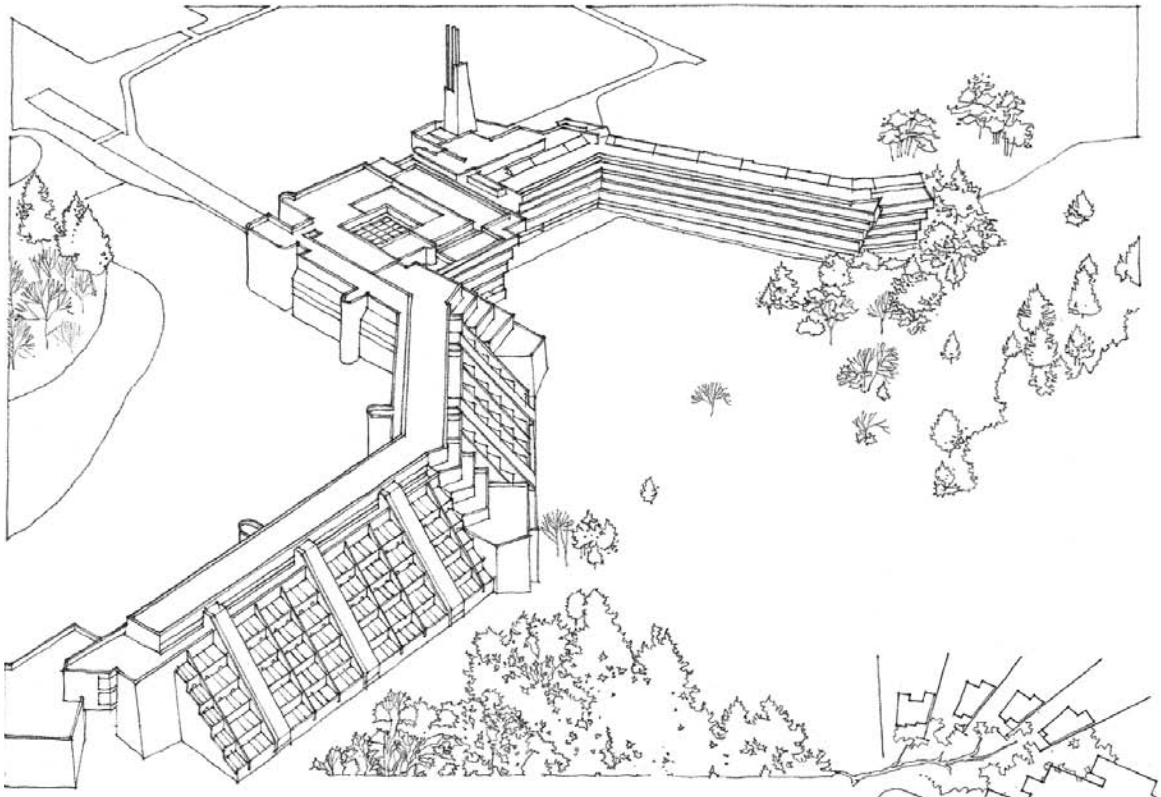


Bridge House (Project), Christopher Owen

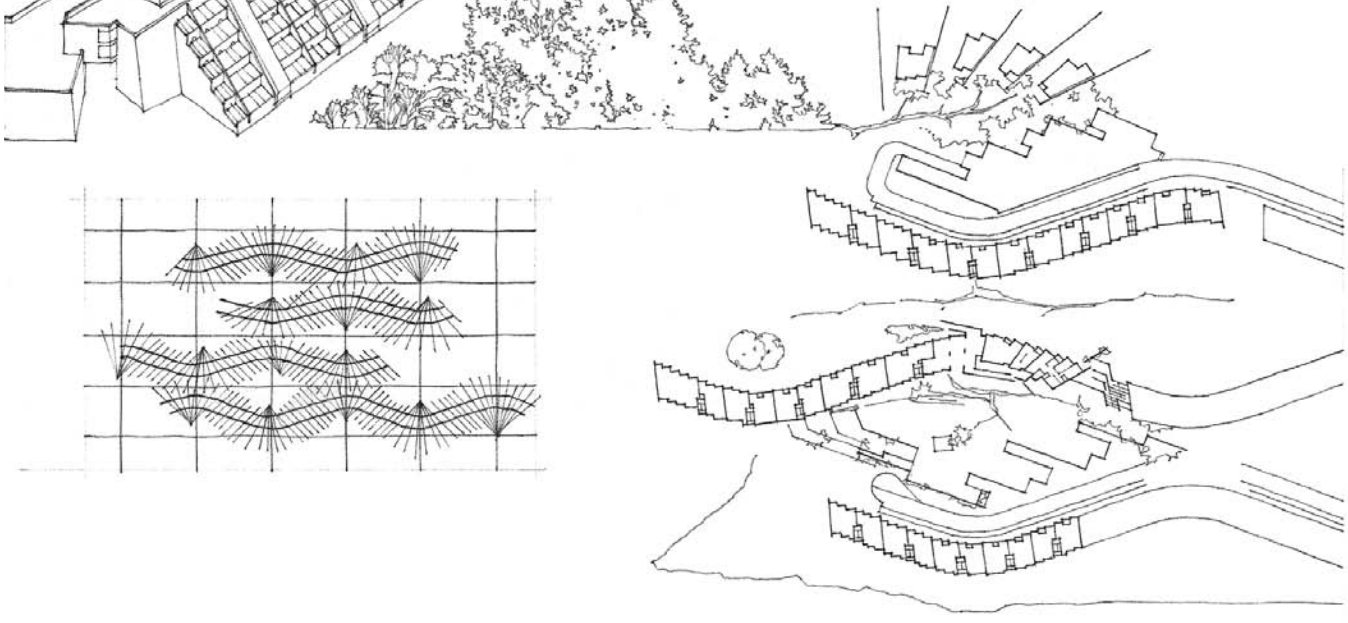
and expressing movement



House 10 (Project), 1966, John Hejduk

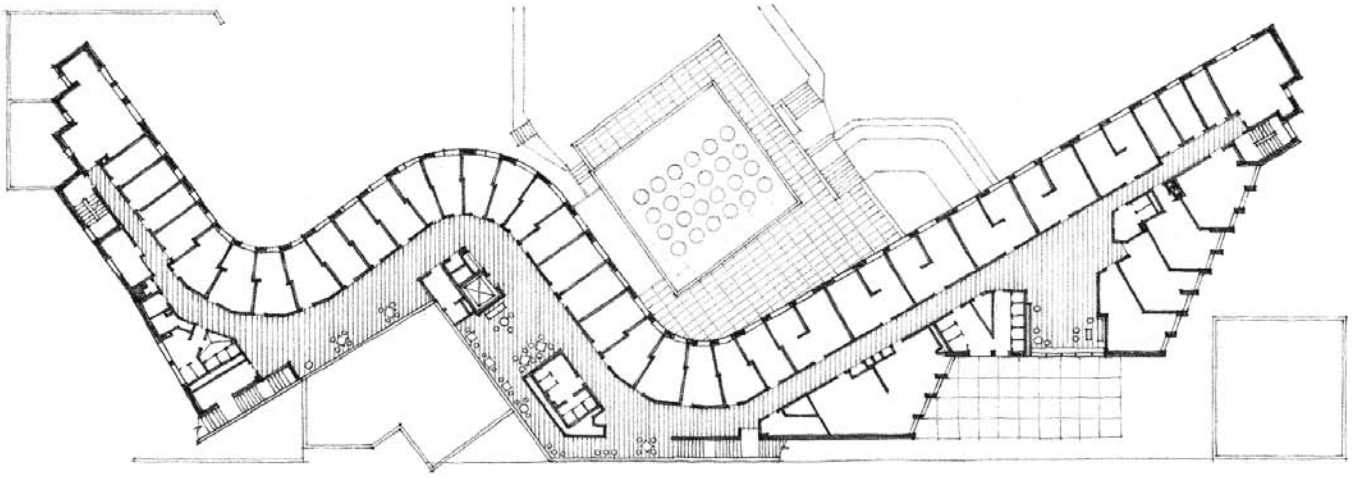


Scarborough College, Westhill, Ontario, 1964, John Andrews

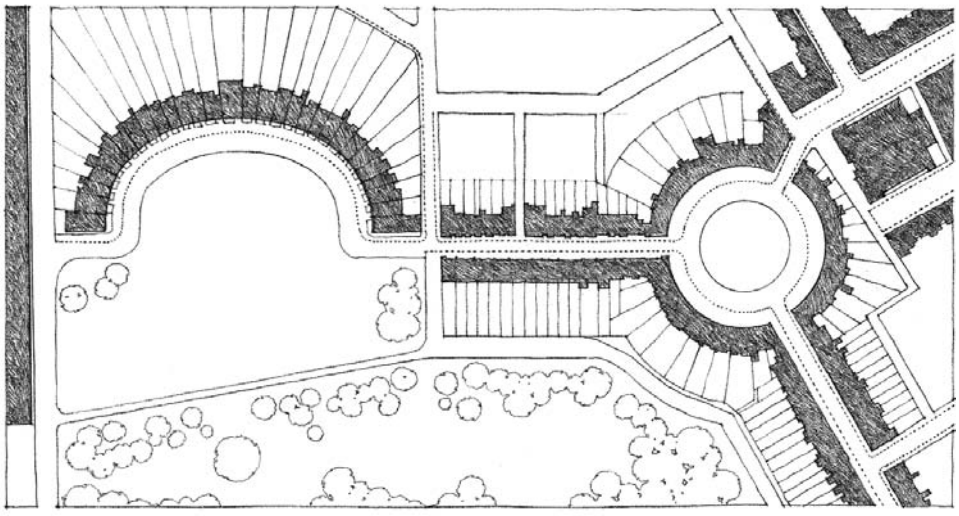


Housing Development, Pavia, Italy, 1966, Alvar Aalto

Linear organizations adapting to site...



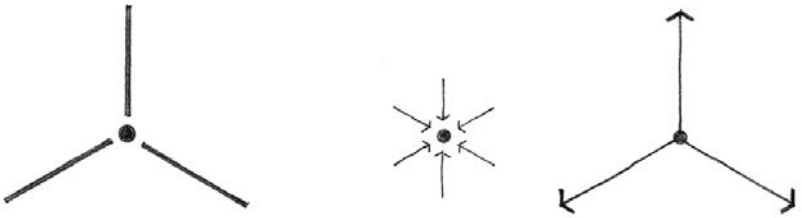
Typical Upper-floor Plan, **Baker House**, Massachusetts Institute of Technology, Cambridge, Massachusetts, 1948, Alvar Aalto



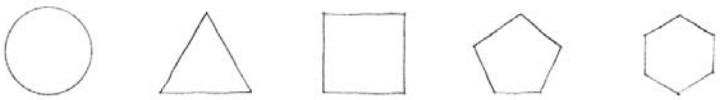
Plan for the the **Circus** (1754, John Wood, Sr.) and the **Royal Crescent** (1767–75, John Wood) at Bath, England

and shaping exterior space

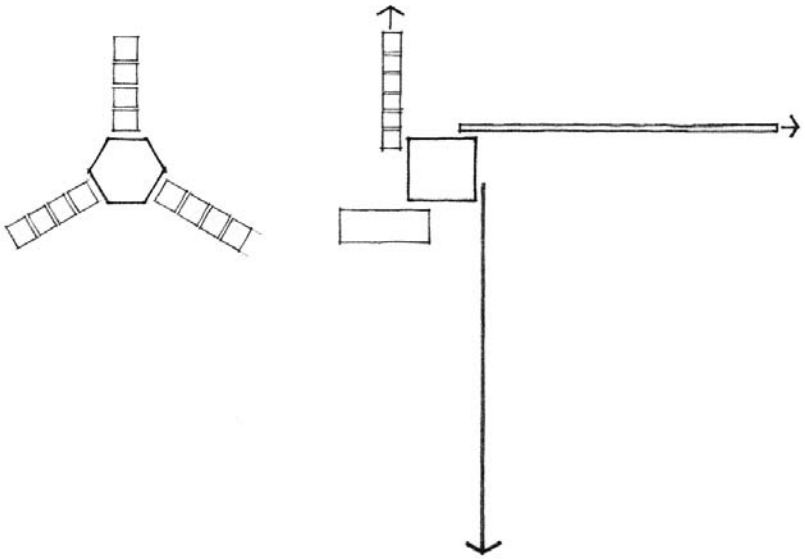
RADIAL ORGANIZATIONS



A radial organization of space combines elements of both centralized and linear organizations. It consists of a dominant central space from which a number of linear organizations extend in a radial manner. Whereas a centralized organization is an introverted scheme that focuses inward on its central space, a radial organization is an extroverted plan that reaches out to its context. With its linear arms, it can extend and attach itself to specific elements or features of its site.

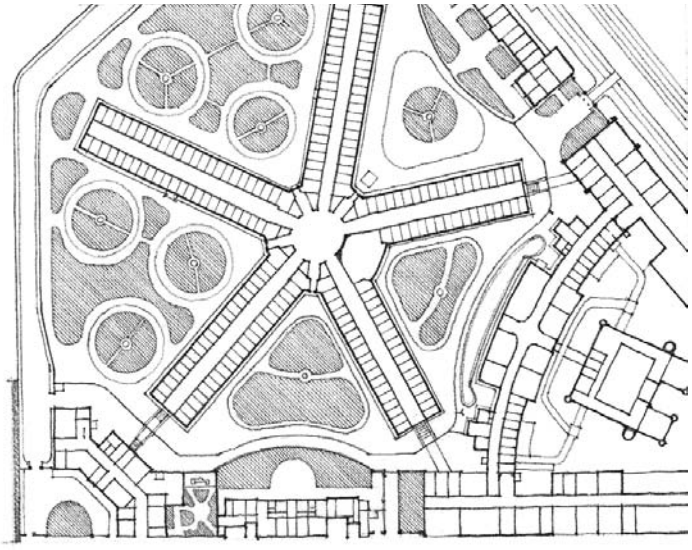


As with centralized organizations, the central space of a radial organization is generally regular in form. The linear arms, for which the central space is the hub, may be similar to one another in form and length and maintain the regularity of the organization's overall form.

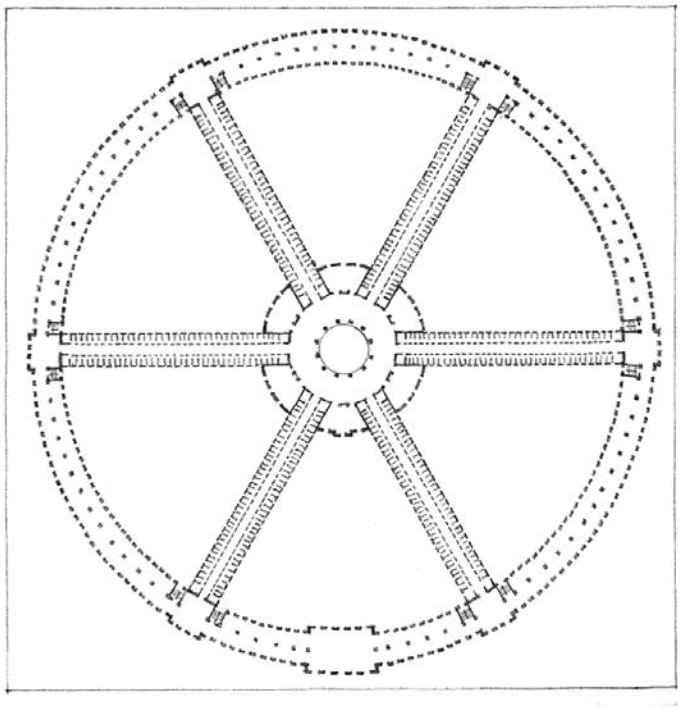


The radiating arms may also differ from one another in order to respond to individual requirements of function and context.

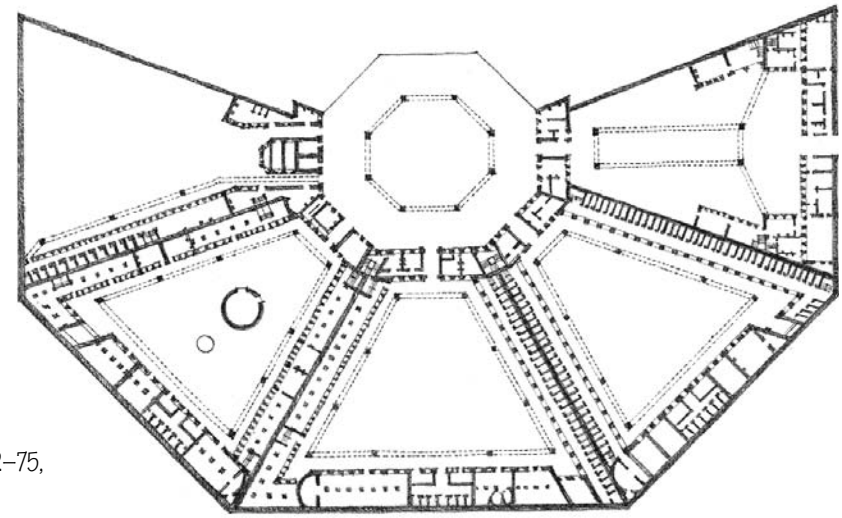
A specific variation of a radial organization is the pinwheel pattern wherein the linear arms of the organization extend from the sides of a square or rectangular central space. This arrangement results in a dynamic pattern that visually suggests a rotational movement about the central space.



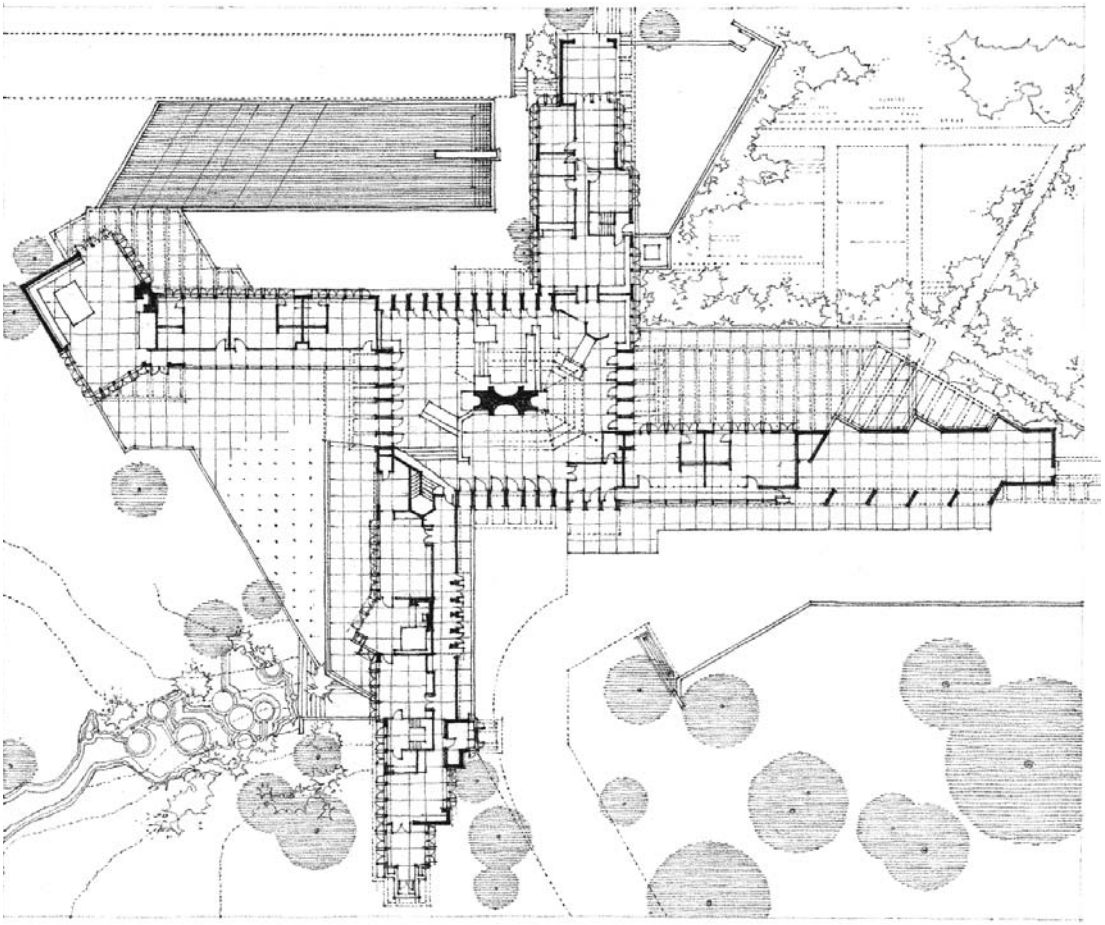
Moabit Prison, Berlin, 1869–79, August Busse and Heinrich Herrmann



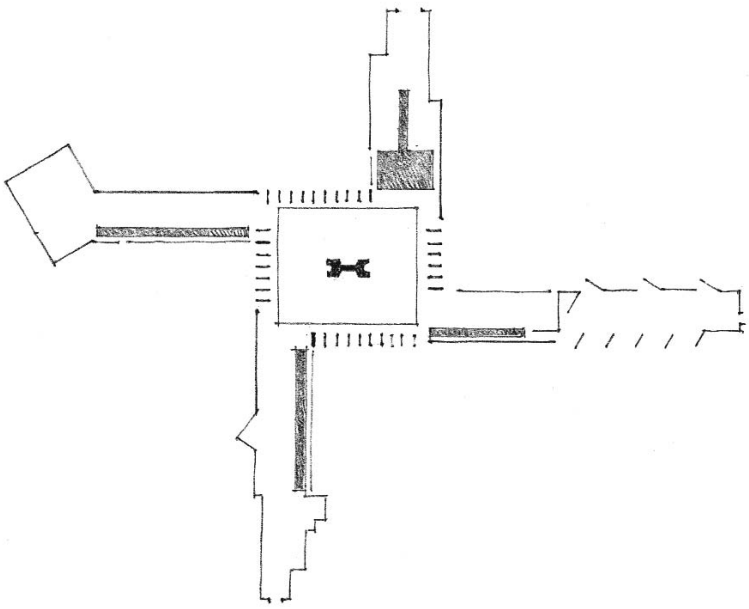
Hôtel Dieu (Hospital), 1774, Antoine Petit

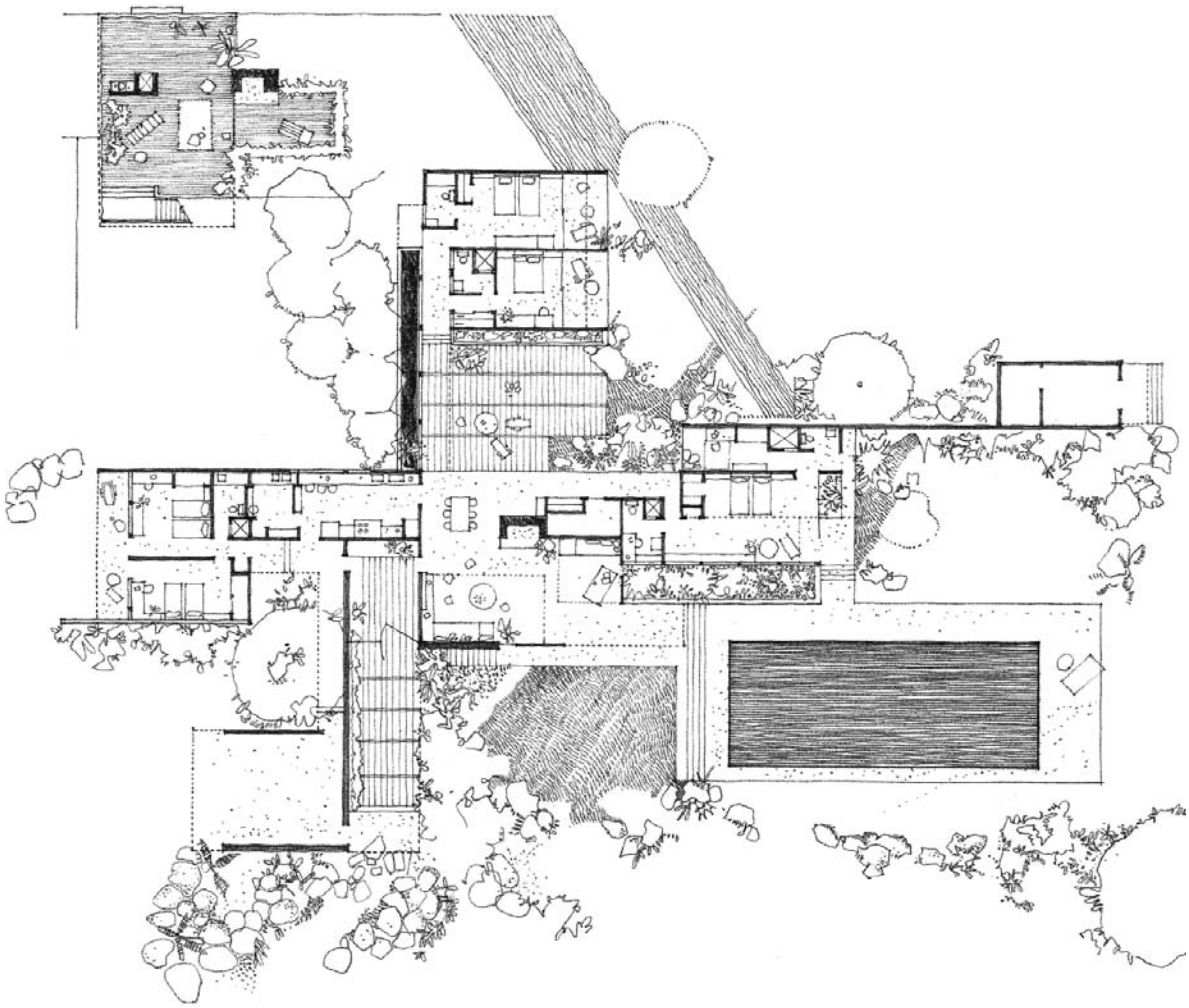


Maison de Force (Prison), Ackerghem near Ghent, Belgium, 1772–75, Malfaison and Kluchman

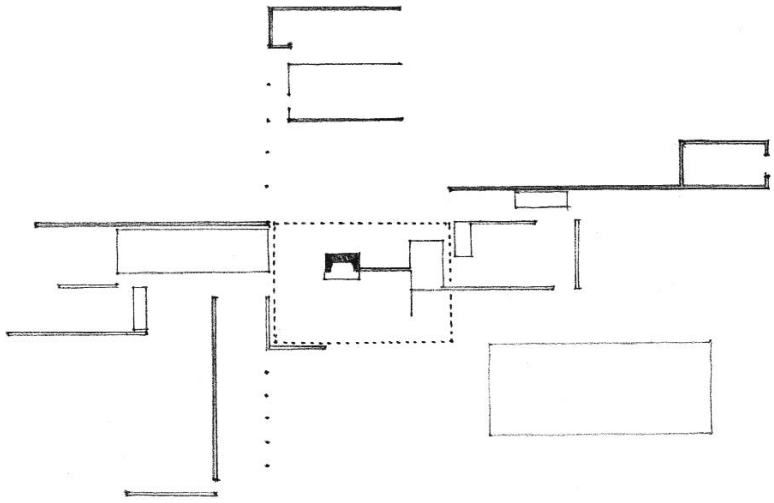


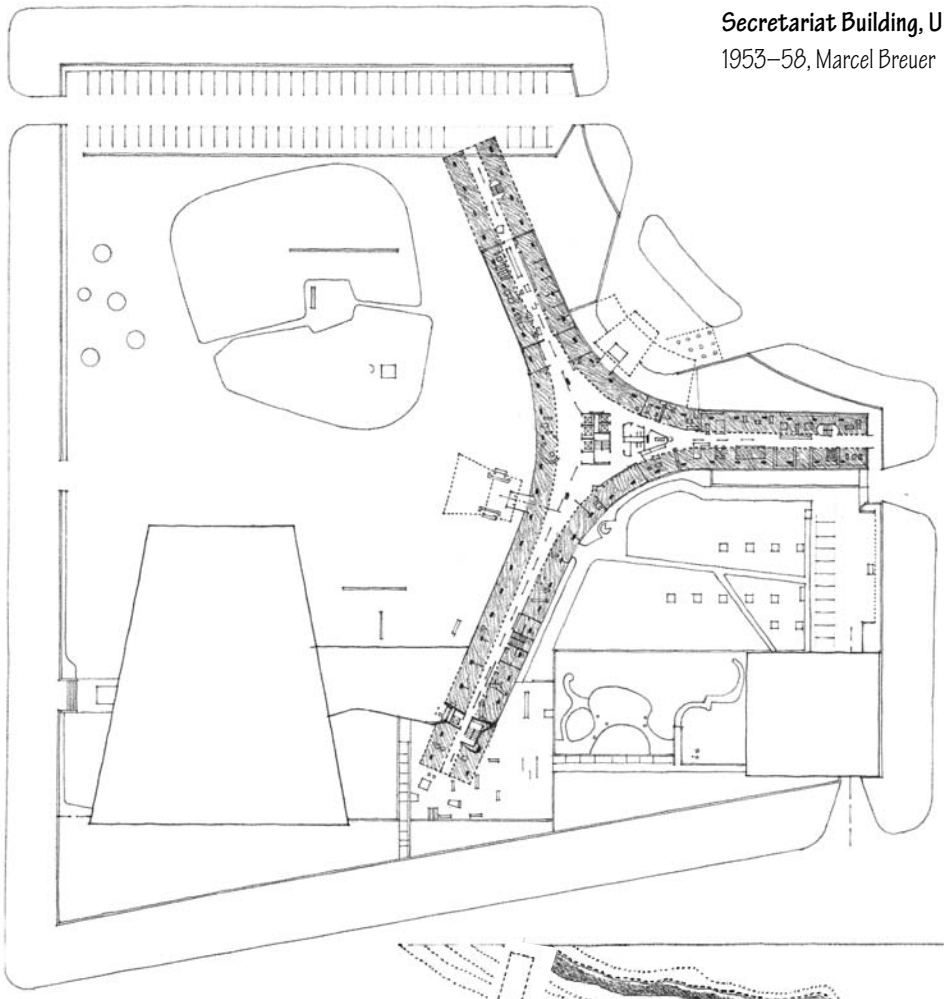
Herbert F. Johnson House (Wingspread), Wind Point, Wisconsin, 1937, Frank Lloyd Wright



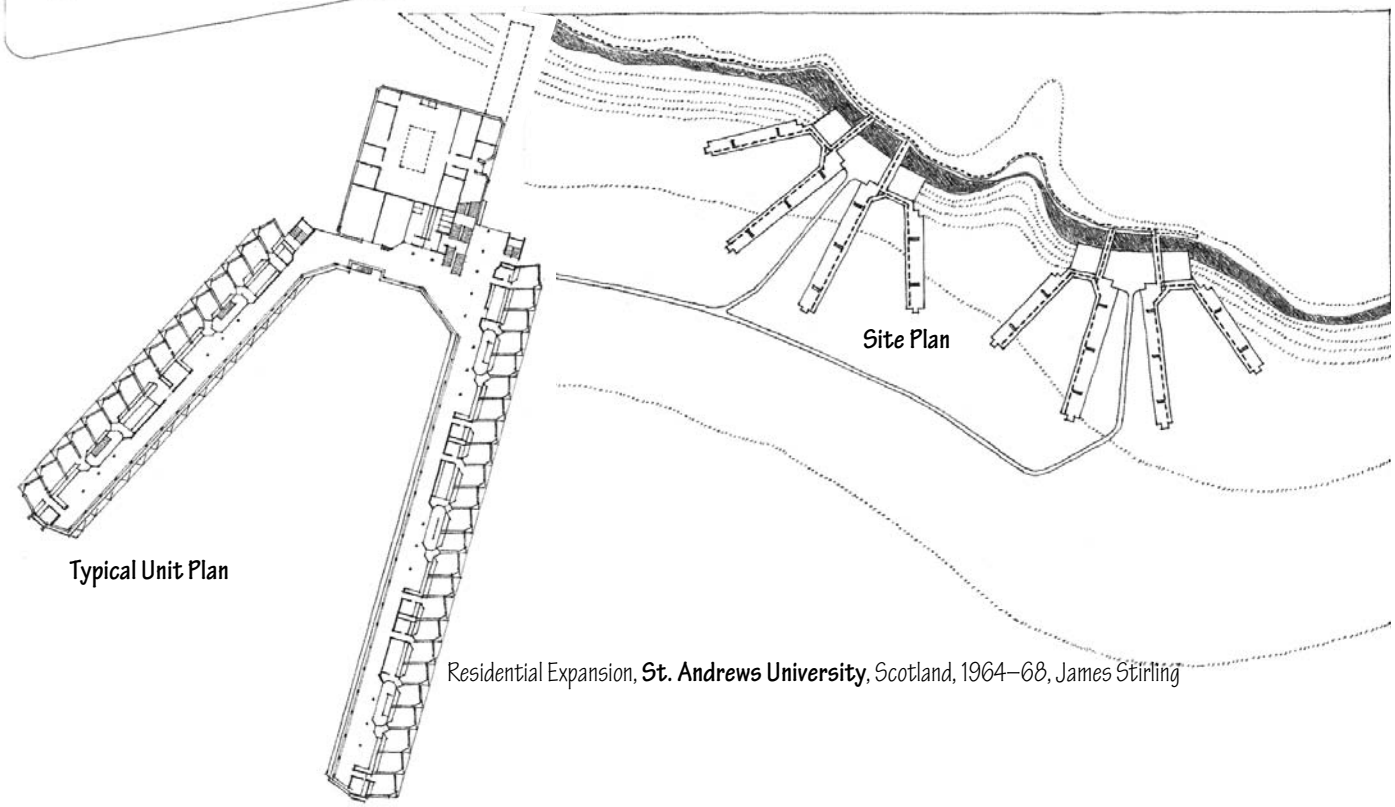


Kaufmann Desert House, Palm Springs, California, 1946, Richard Neutra

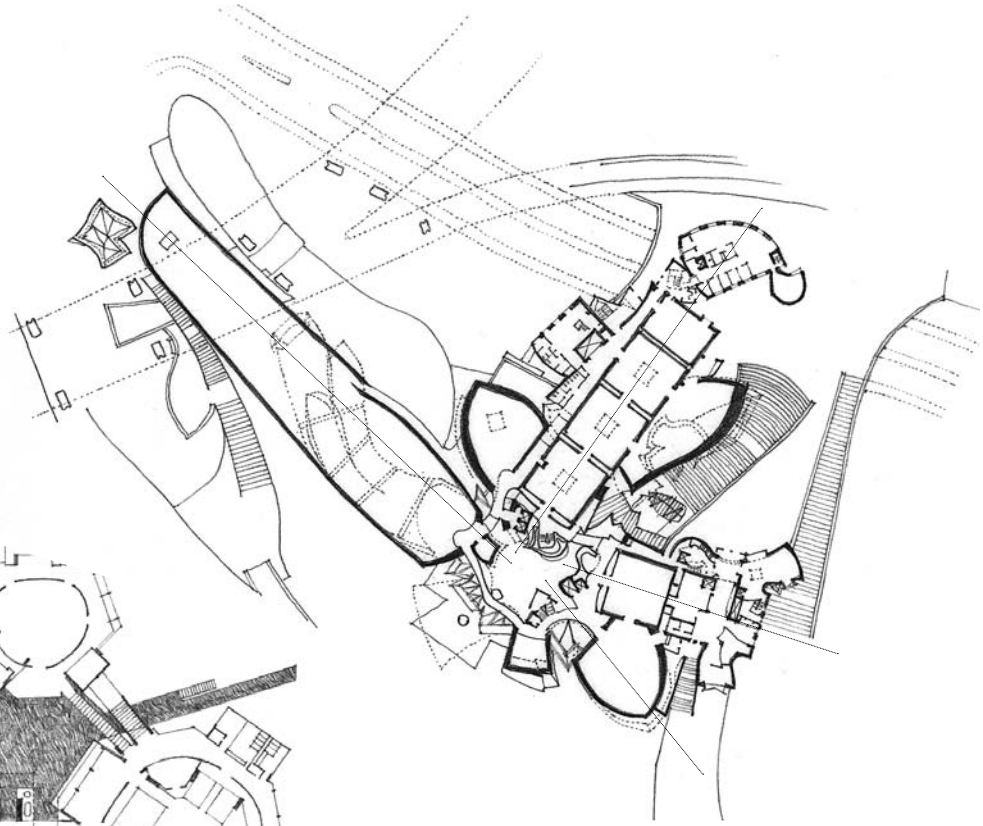




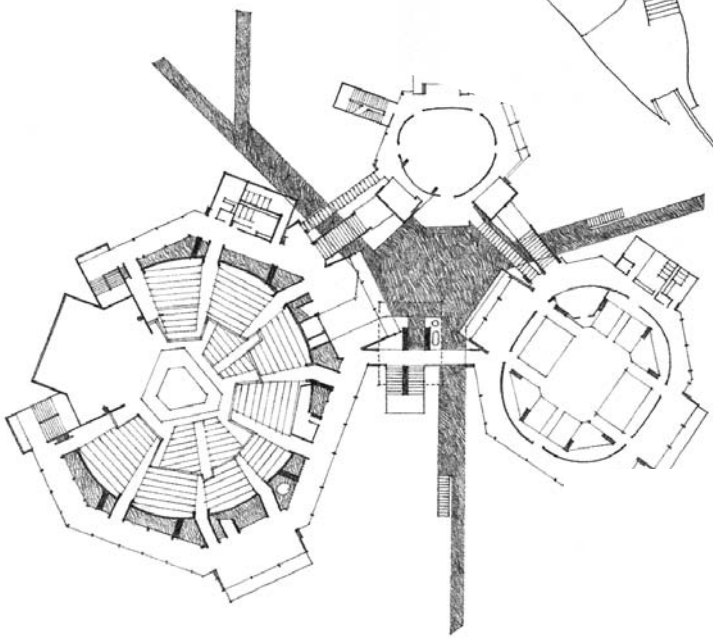
Secretariat Building, UNESCO Headquarters, Place de Fontenoy, Paris, 1953–58, Marcel Breuer



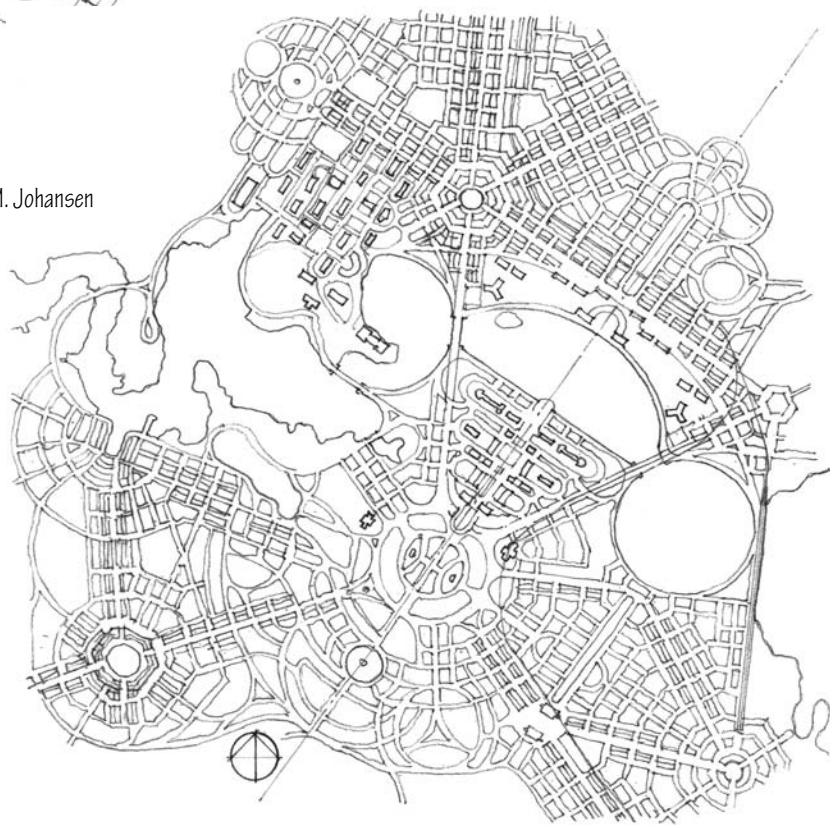
Residential Expansion, **St. Andrews University**, Scotland, 1964–68, James Stirling



Guggenheim Museum, Bilbao, Spain, 1991–7, Frank Gehry

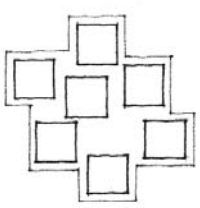


New Mummers Theater, Oklahoma City, Oklahoma, 1970, John M. Johansen

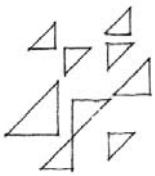


Plan for Canberra, Australia, 1911, Walter Burley Griffin

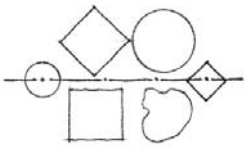
CLUSTERED ORGANIZATIONS



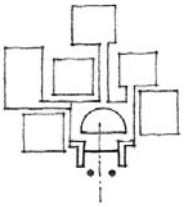
Repetitive spaces



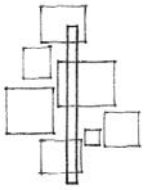
Sharing a common shape



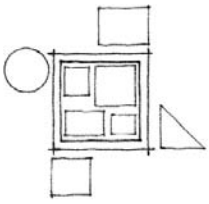
Organized by an axis



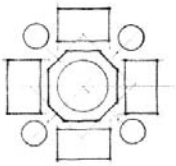
Clustered about an entry



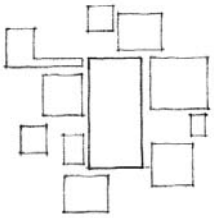
Grouped along a path



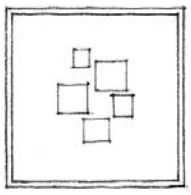
A loop path



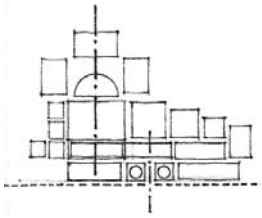
Centralized pattern



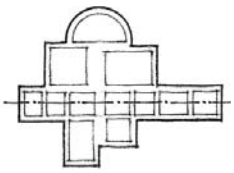
Clustered pattern



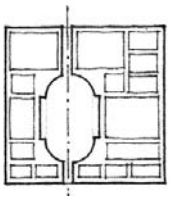
Contained within a space



Axial conditions



Axial condition



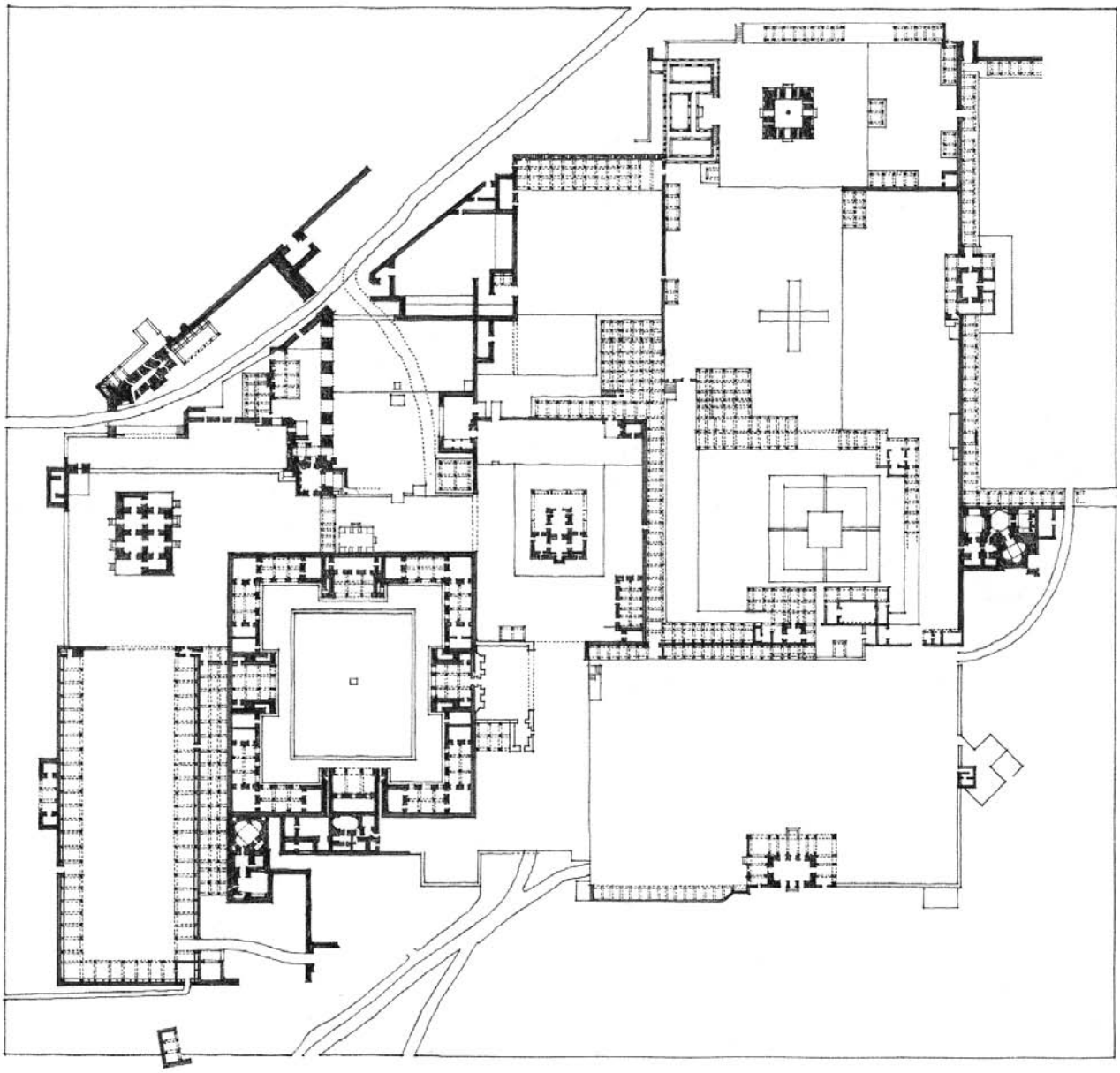
Symmetrical condition

A clustered organization relies on physical proximity to relate its spaces to one another. It often consists of repetitive, cellular spaces that have similar functions and share a common visual trait such as shape or orientation. A clustered organization can also accept within its composition spaces that are dissimilar in size, form, and function, but related to one another by proximity or a visual ordering device such as symmetry or an axis. Because its pattern does not originate from a rigid geometrical concept, the form of a clustered organization is flexible and can accept growth and change readily without affecting its character.

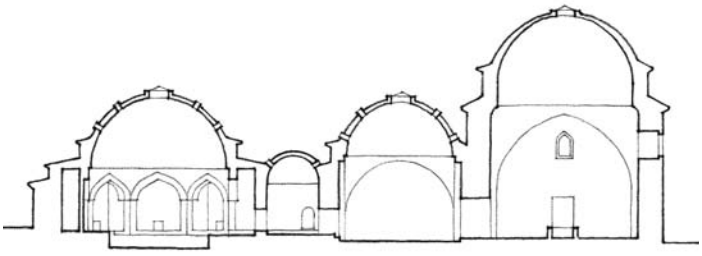
Clustered spaces can be organized about a point of entry into a building or along the path of movement through it. The spaces can also be clustered about a large defined field or volume of space. This pattern is similar to that of a centralized organization, but it lacks the latter's compactness and geometrical regularity. The spaces of a clustered organization can also be contained within a defined field or volume of space.

Since there is no inherent place of importance within the pattern of a clustered organization, the significance of a space must be articulated by its size, form, or orientation within the pattern.

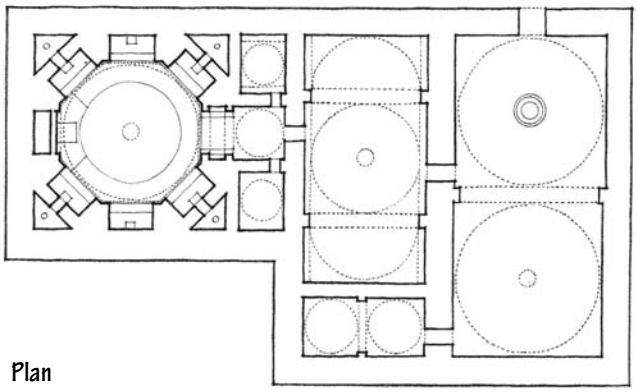
Symmetry or an axial condition can be used to strengthen and unify portions of a clustered organization and help articulate the importance of a space or group of spaces within the organization.



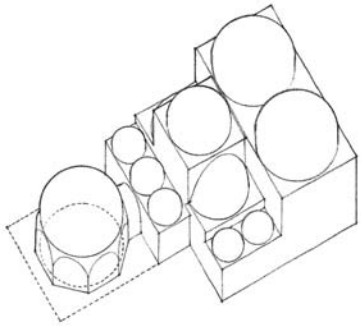
Fatehpur Sikri, Palace Complex of Akbar the Great Mogul Emperor of India, 1569–74



Section

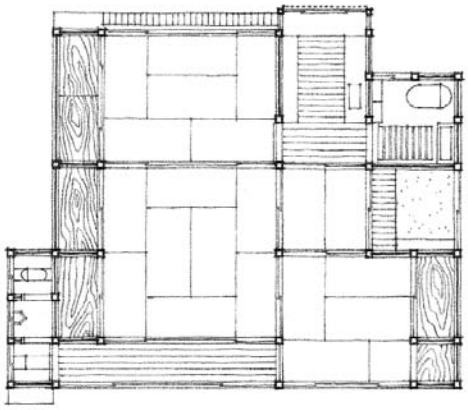


Plan



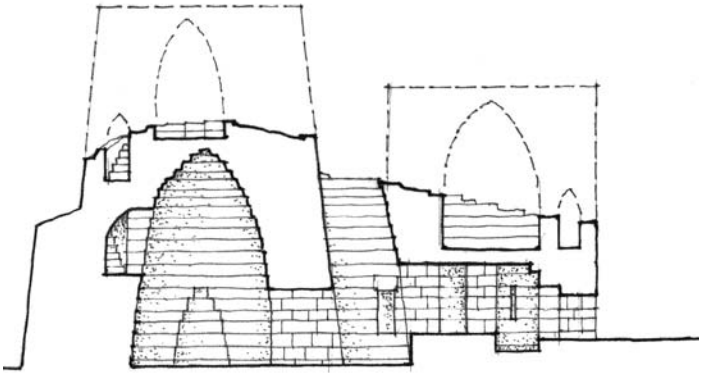
Oblique view

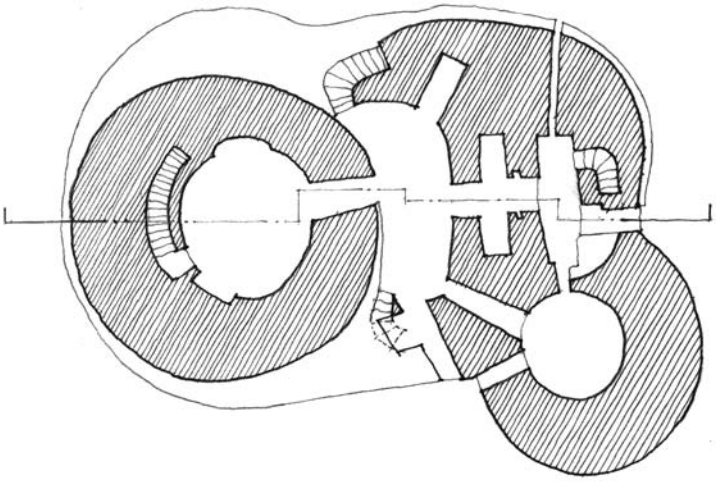
Yeni-Kaplica (Thermal Bath), Bursa,Turkey



Traditional Japanese House

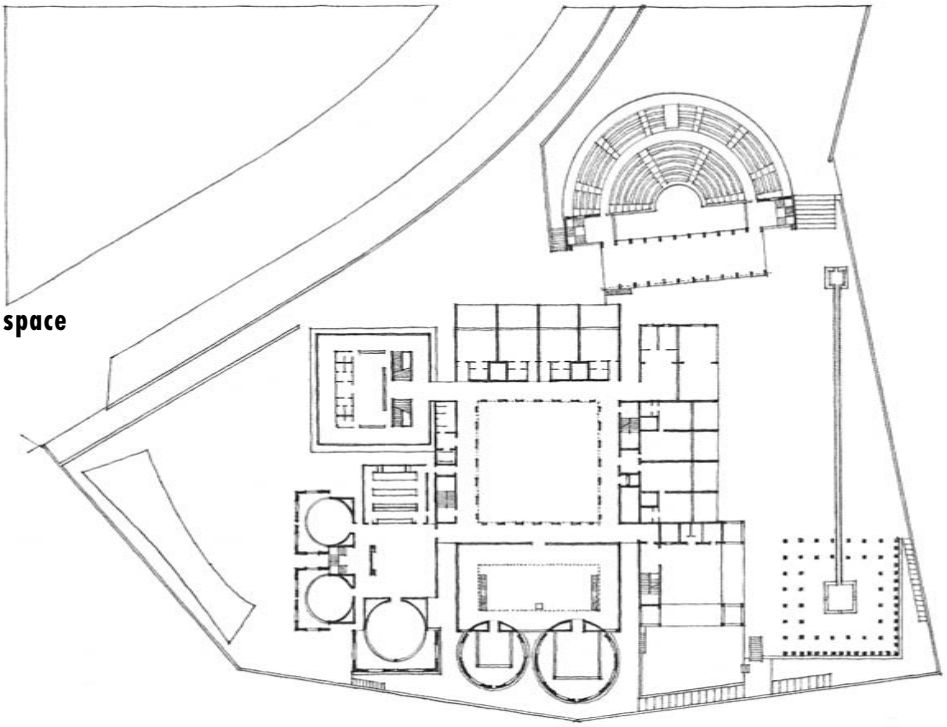
Spaces organized by geometry



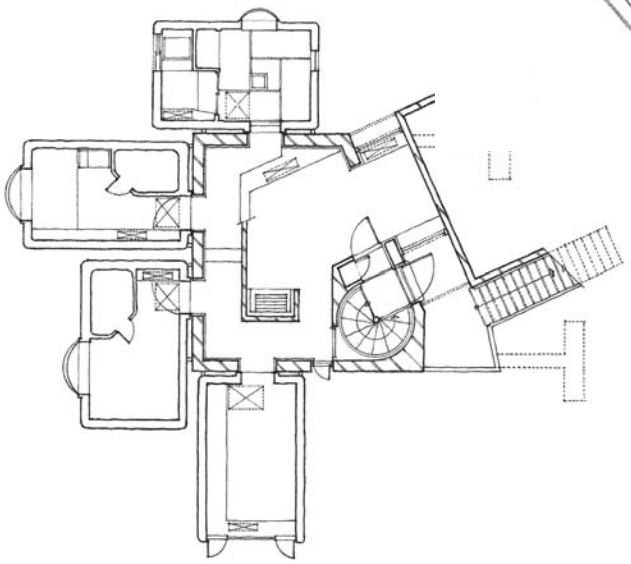


Nuraghe at Palmavera, Sardinia, typical of the ancient stone towers of the Nuraghic culture, 18th–16th century B.C.

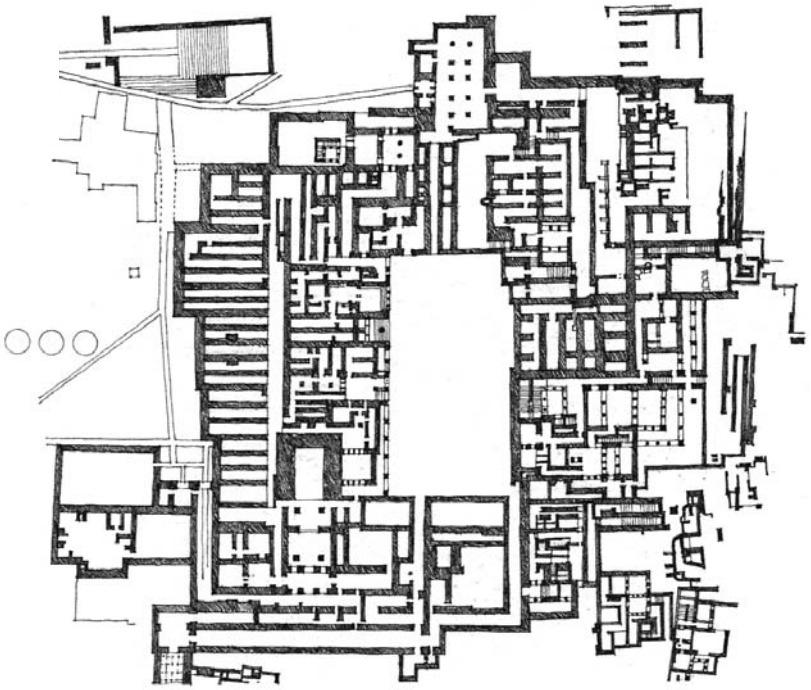
Meeting House, Salk Institute of Biological Studies (Project), La Jolla, California, 1959–65, Louis Kahn



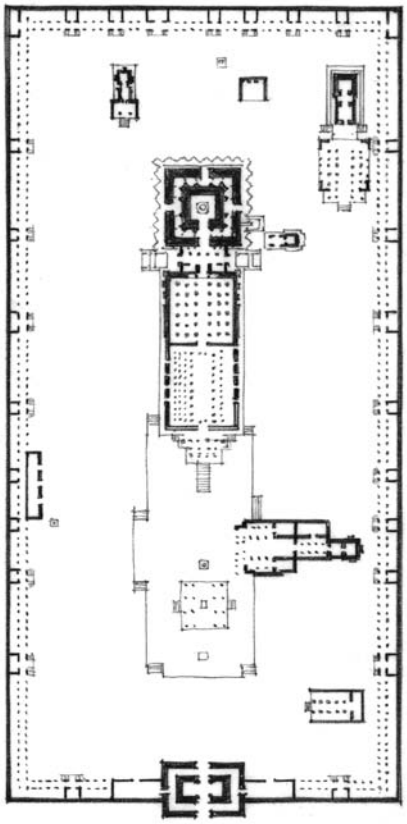
Spaces organized around a dominant space



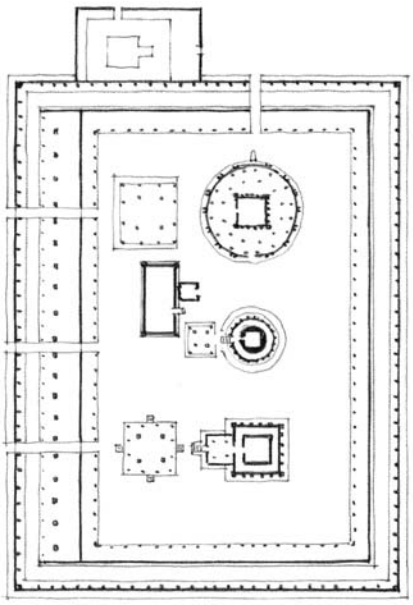
Karuizawa House, Country Retreat, 1974, Kisho Kurokawa



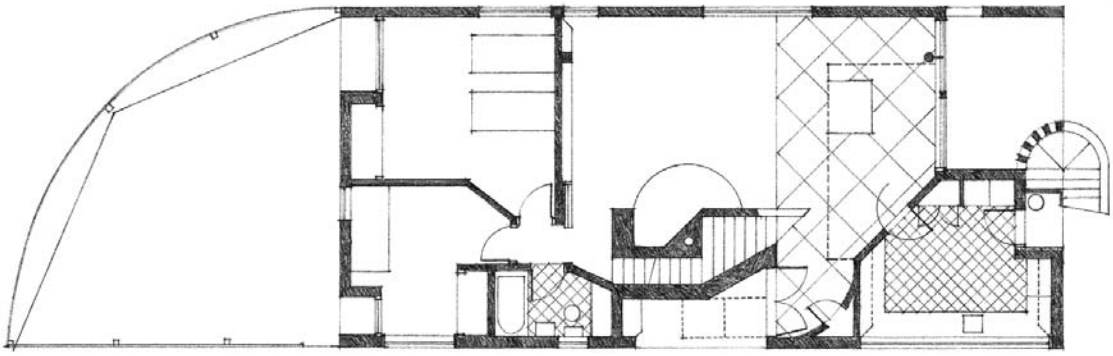
Palace of King Minos, Knossos, Crete, c. 1500 B.C.



Rajarajeshwara Temple, Thanjavur, India, 11th century

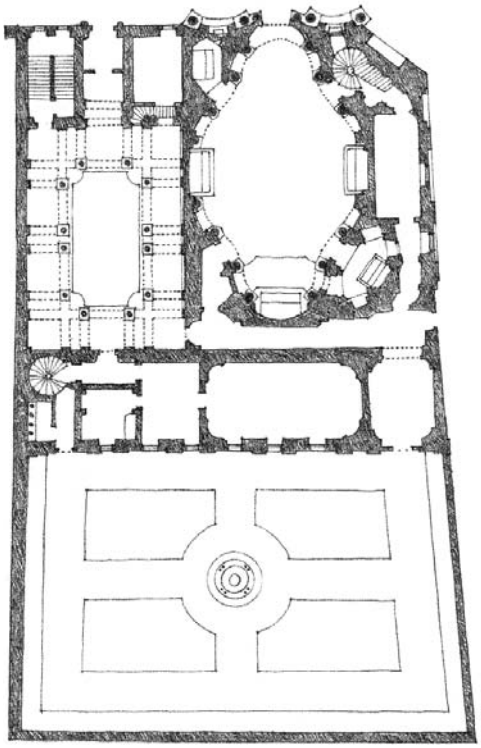


Vadakkunnathan Temple, Trichur, India, 11th century

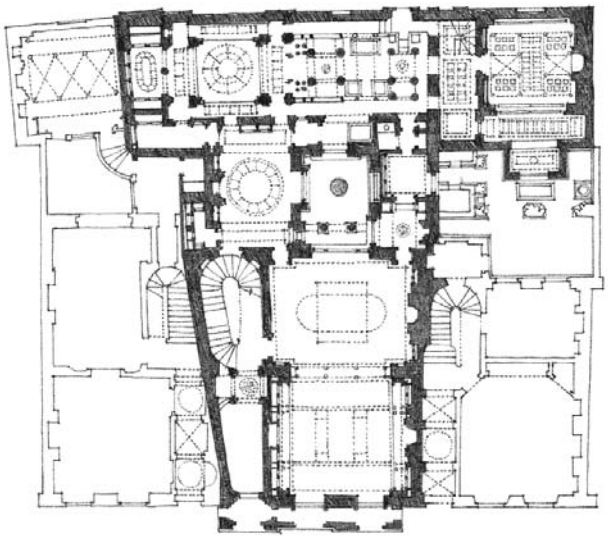


House for Mrs. Robert Venturi, Chestnut Hill, Pennsylvania, 1962–64, Venturi and Short

Spaces organized within a spatial field



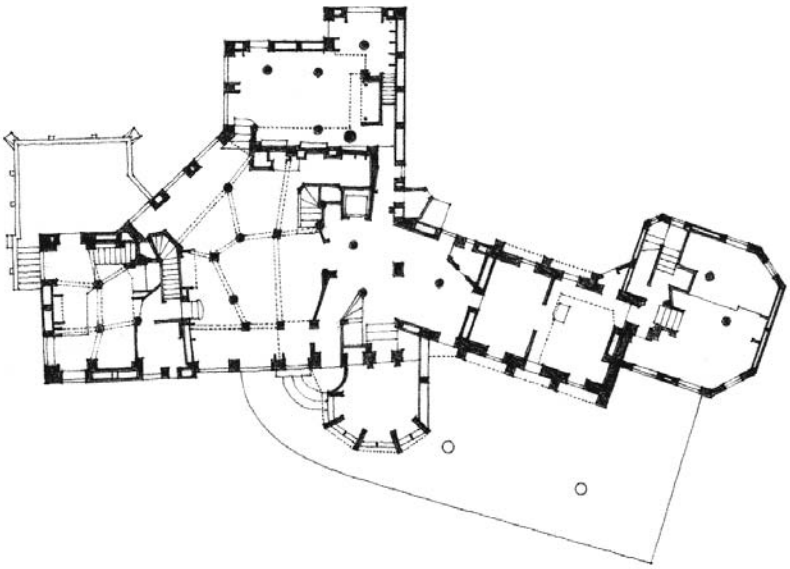
S. Carlo alle Quattro Fontane, Rome, 1633–41, Francesco Borromini



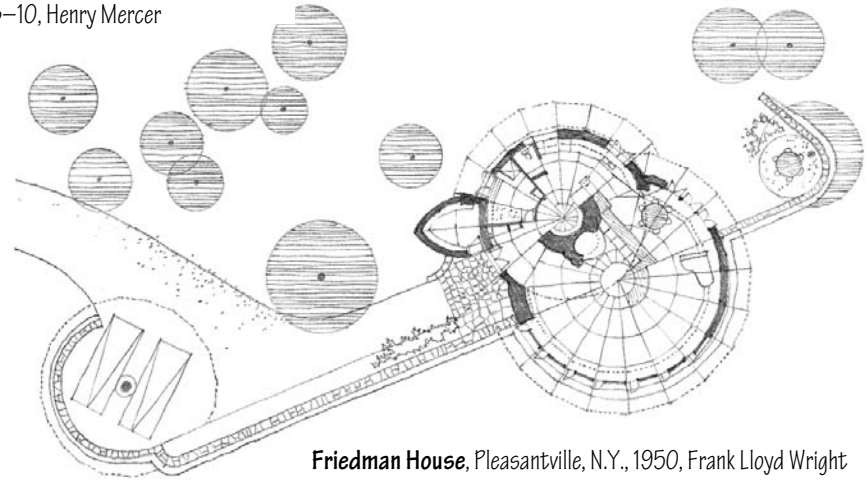
Soane House, London, England, 1812–34, Sir John Soane

Bank of England, London, England, 1788–1833, Sir John Soane

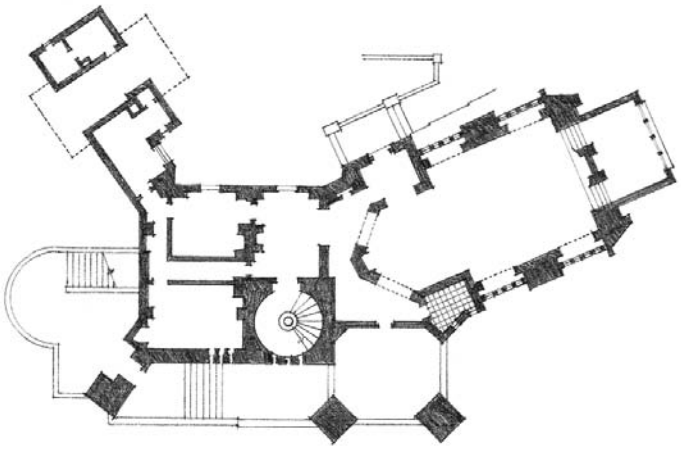
Spaces organized by axial symmetries



Mercer's Castle (Fonthill), Doylestown, Pennsylvania, 1908–10, Henry Mercer

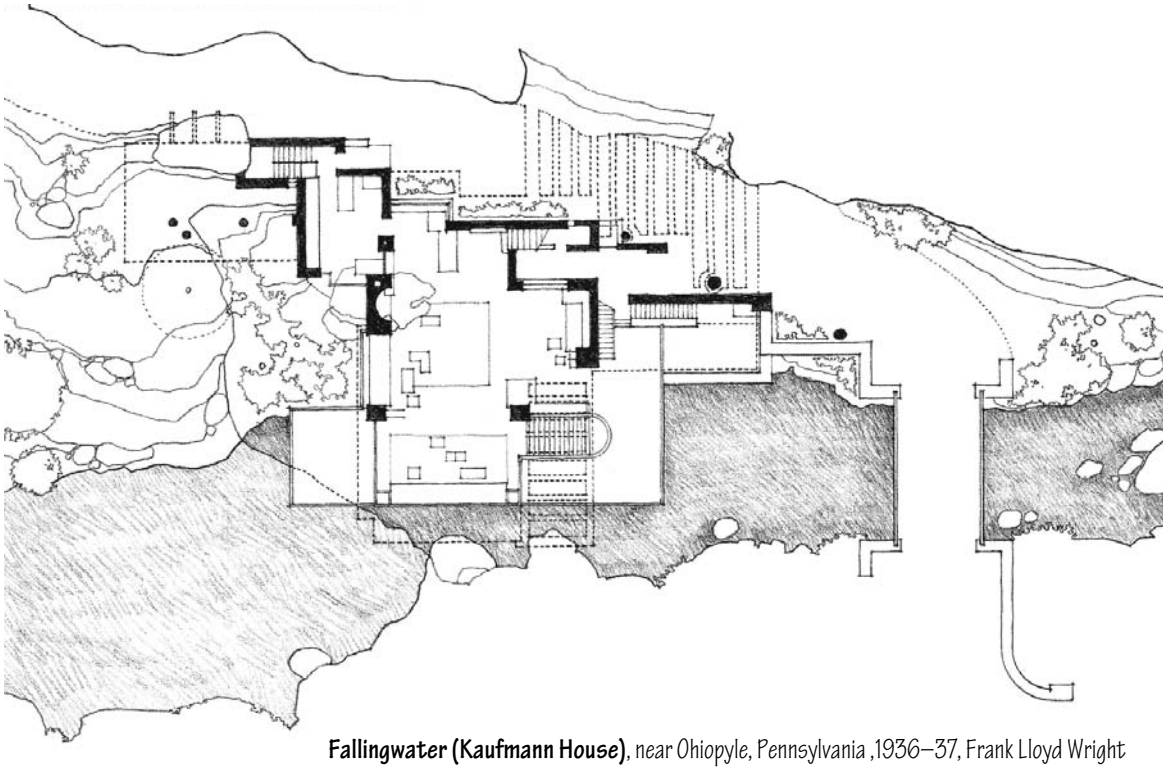


Friedman House, Pleasantville, N.Y., 1950, Frank Lloyd Wright

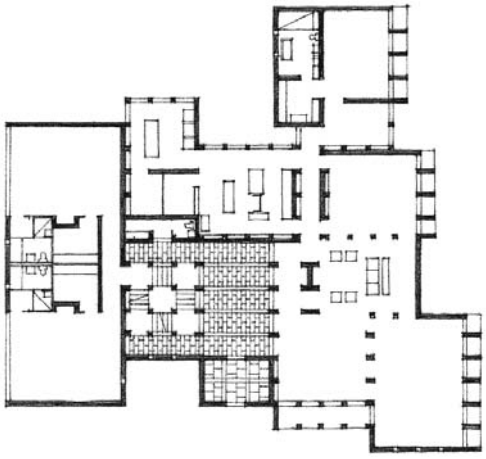


Wyntoon, Country Estate for the Hearst Family in northern California,1903, Bernard Maybeck

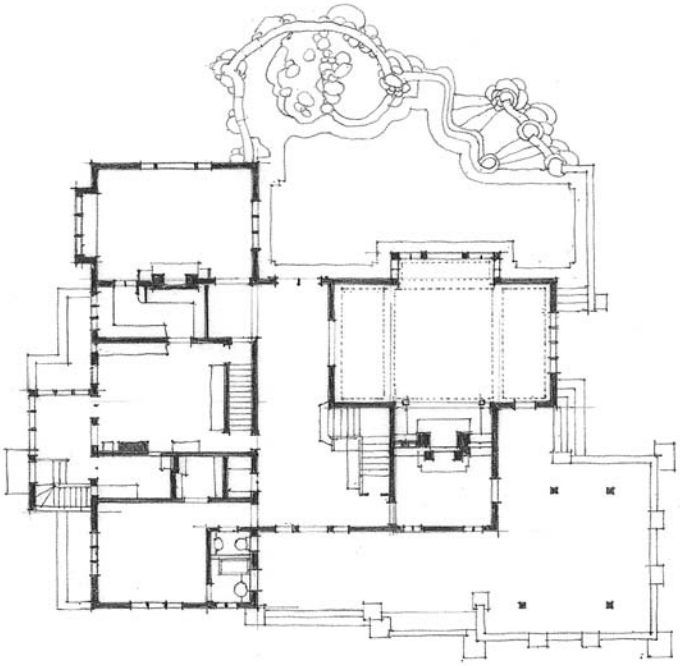
Spaces organized by site conditions



Fallingwater (Kaufmann House), near Ohiopyle, Pennsylvania ,1936–37, Frank Lloyd Wright



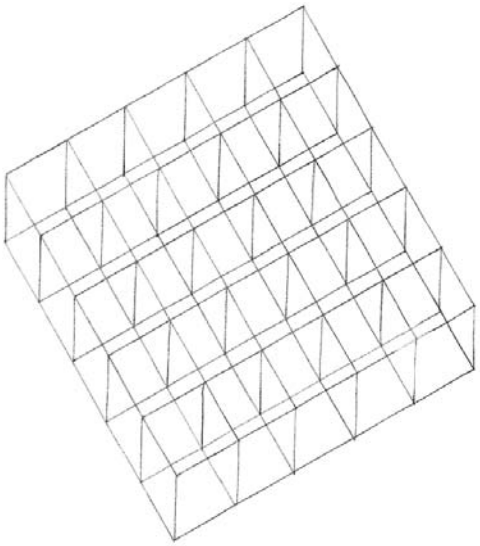
Morris House (Project), Mount Kisco, New York, 1958, Louis Kahn



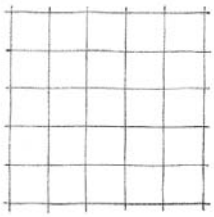
Gamble House, Pasadena, California, 1908, Greene & Greene

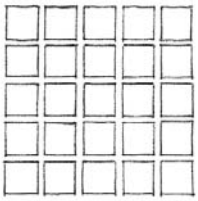
Spaces organized by geometric pattern

GRID ORGANIZATIONS

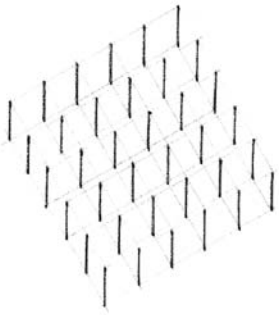


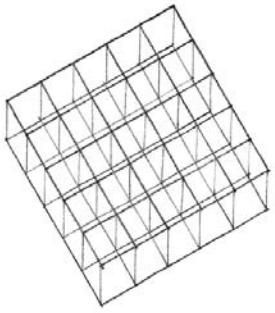
A grid organization consists of forms and spaces whose positions in space and relationships with one another are regulated by a three-dimensional grid pattern or field.

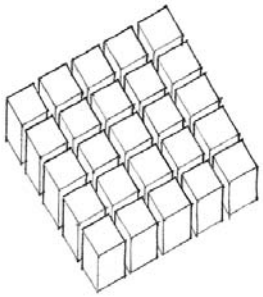




A grid is created by two, usually perpendicular, sets of parallel lines that establish a regular pattern of points at their intersections. Projected into the third dimension, the grid pattern is transformed into a set of repetitive, modular units of space.

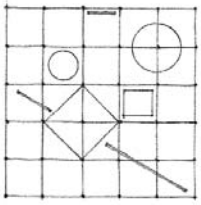
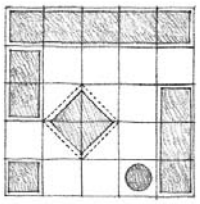
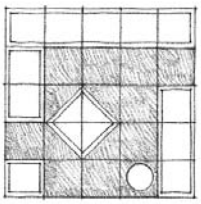




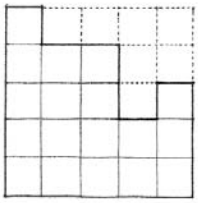
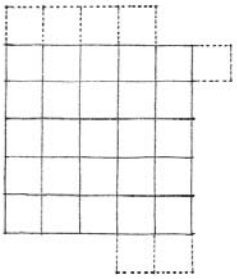
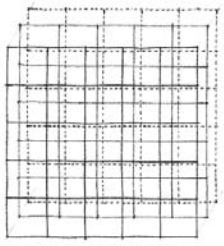


The organizing power of a grid results from the regularity and continuity of its pattern that pervades the elements it organizes. Its pattern establishes a stable set or field of reference points and lines in space with which the spaces of a grid organization, although dissimilar in size, form, or function, can share a common relationship.

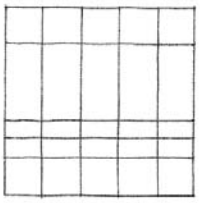
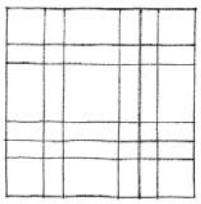
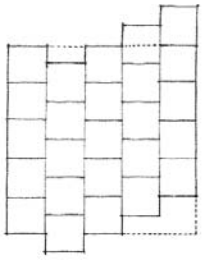
A grid is established in architecture most often by a skeletal structural system of columns and beams. Within the field of this grid, spaces can occur as isolated events or as repetitions of the grid module. Regardless of their disposition within the field, these spaces, if seen as positive forms, will create a second set of negative spaces.

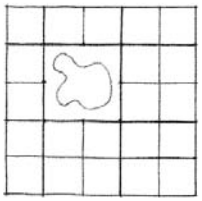
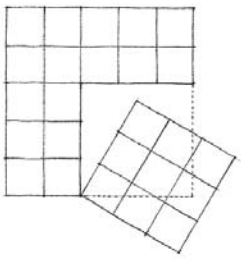
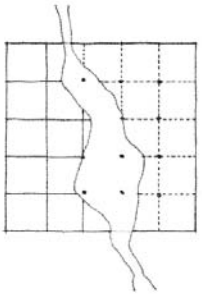
Since a three-dimensional grid consists of repetitive, modular units of space, it can be subtracted from, added to, or layered, and still maintain its identity as a grid with the ability to organize spaces. These formal manipulations can be used to adapt a grid form to its site, to define an entrance or outdoor space, or to allow for its growth and expansion.

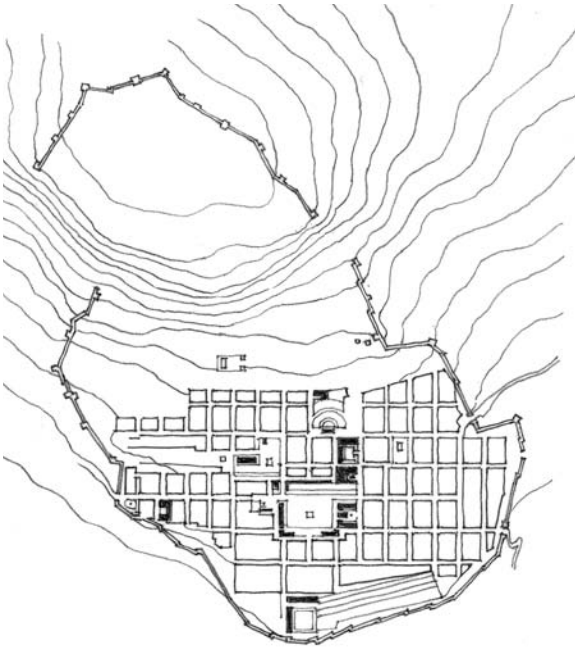




To accommodate the specific dimensional requirements of its spaces or to articulate zones of space for circulation or service, a grid can be made irregular in one or two directions. This dimensional transformation would create a hierarchical set of modules differentiated by size, proportion, and location.

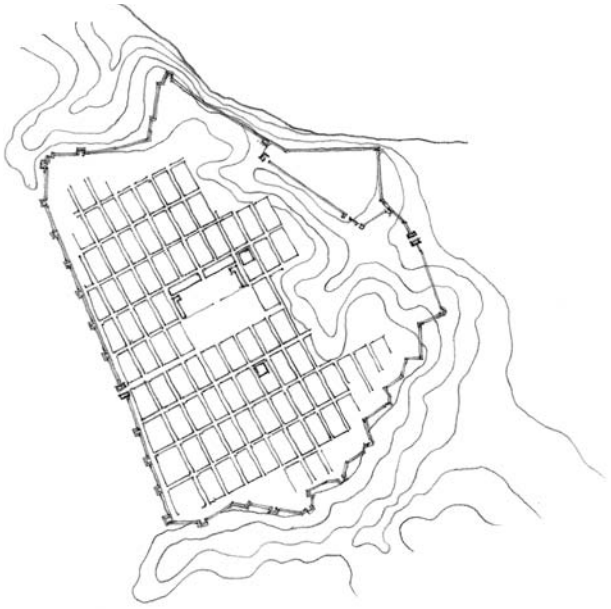




A grid can also undergo other transformations. Portions of the grid can slide to alter the visual and spatial continuity across its field. A grid pattern can be interrupted to define a major space or accommodate a natural feature of its site. A portion of the grid can be dislocated and rotated about a point in the basic pattern. Across its field, a grid can transform its image from a pattern of points to lines, to planes, and finally, to volumes.

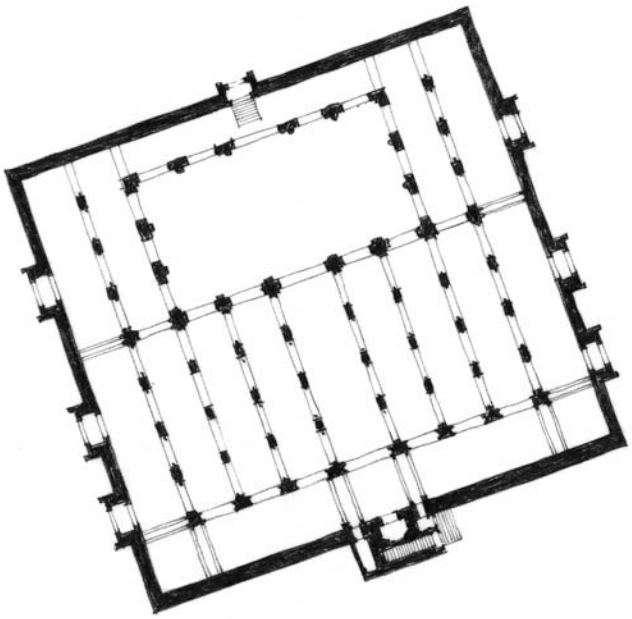






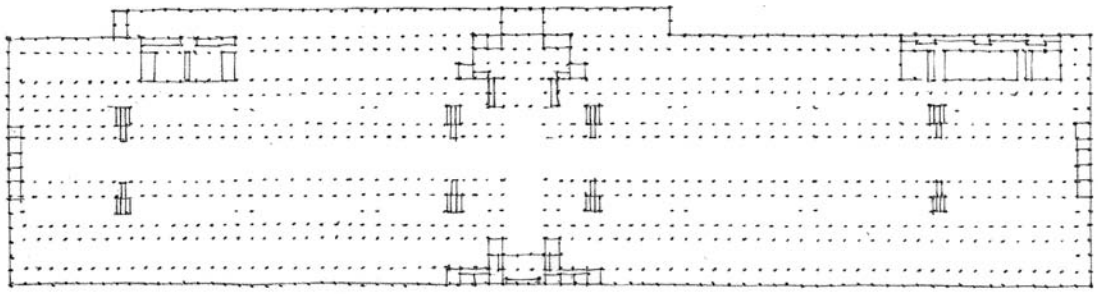
City of **Priene**, Turkey, founded 334 B.C.



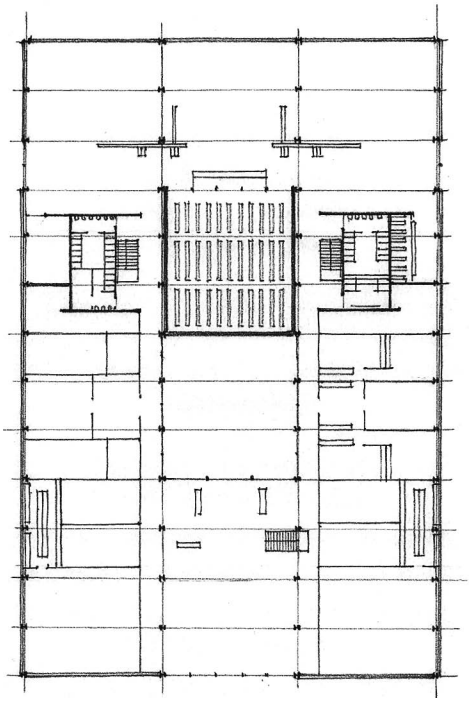
Plan of **Dura-Europos**, near Salhiyé, Syria, 4th century B.C.



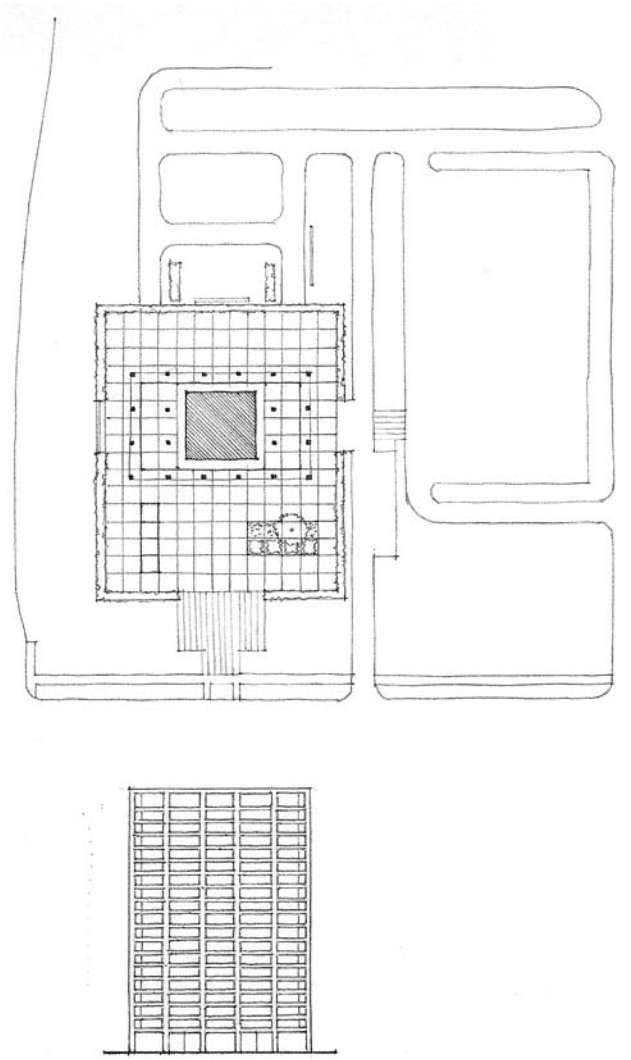
***Mosque of* Tinmal**, Morocco, 1153–54



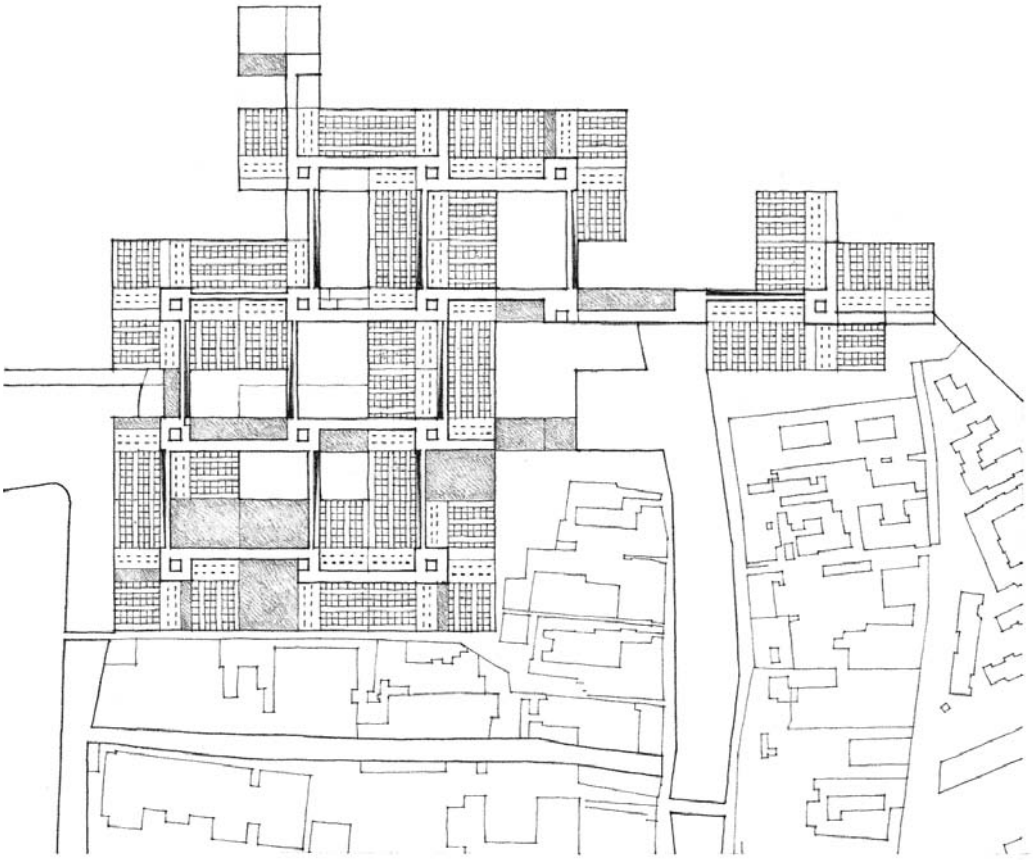
Crystal Palace, London, England, Great Exhibition of 1851, Sir Joseph Paxton



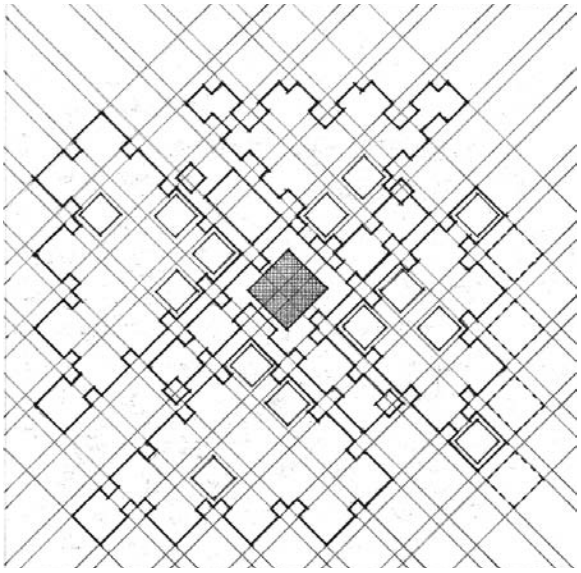
IIT Library Building, Chicago, Illinois, 1942–3, Ludwig Mies van der Rohe



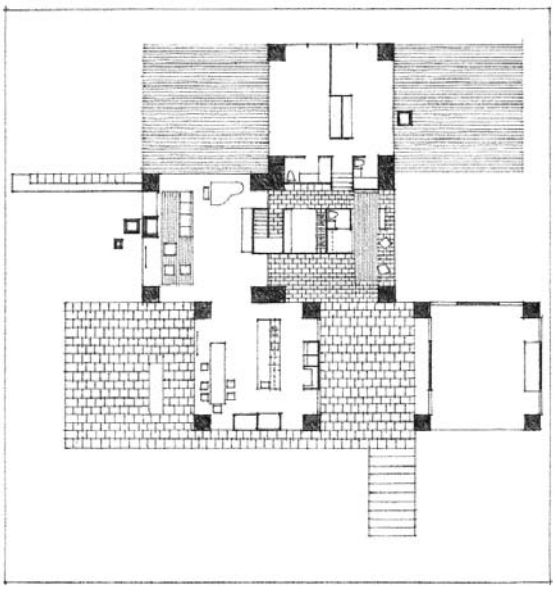
Business Men's Assurance Co. of America, Kansas City, Missouri, 1963, SOM



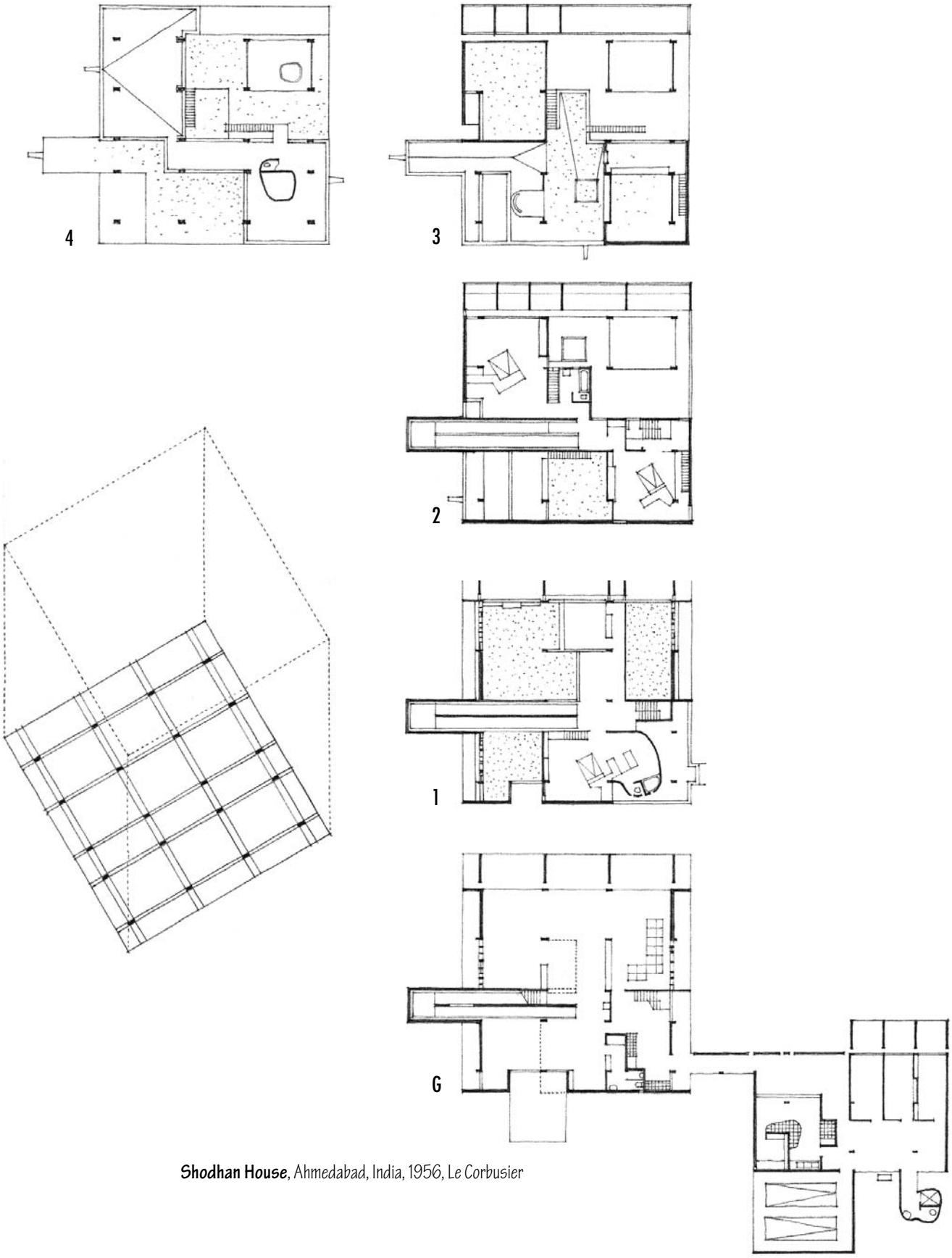
Hospital Project, Venice, 1964–66, Le Corbusier



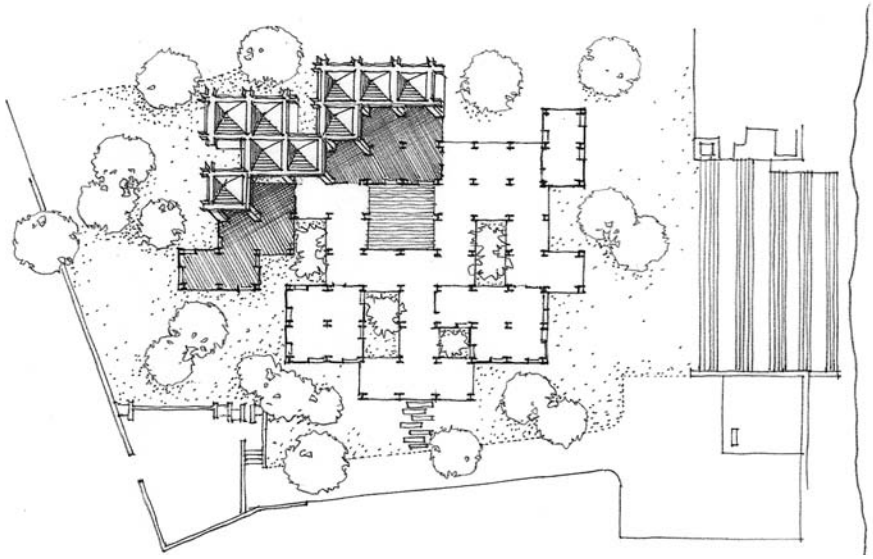
Centraal Beheer Office Building, Apeldoorn, The Netherlands, 1972, Herman Hertzberger with Lucas & Niemeyer



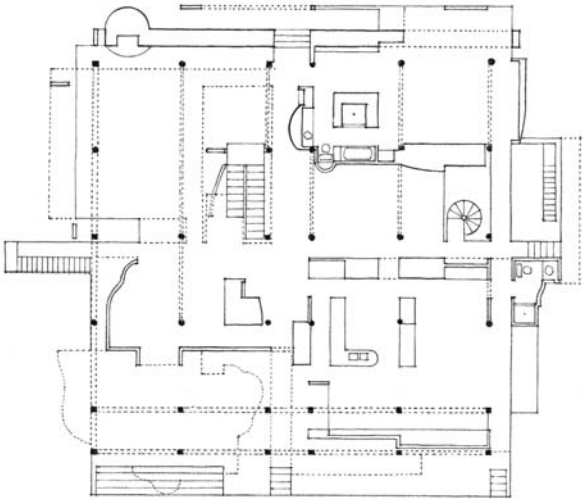
Adler House (Project), Philadelphia, Pennsylvania, 1954, Louis Kahn



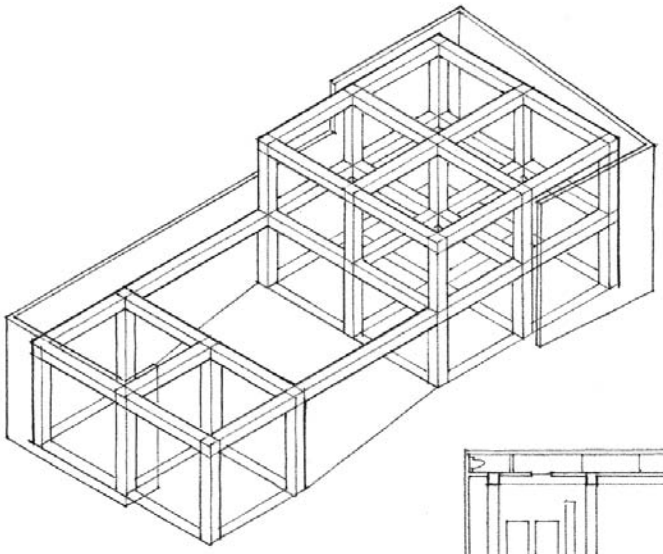
Shodhan House, Ahmedabad, India, 1956, Le Corbusier

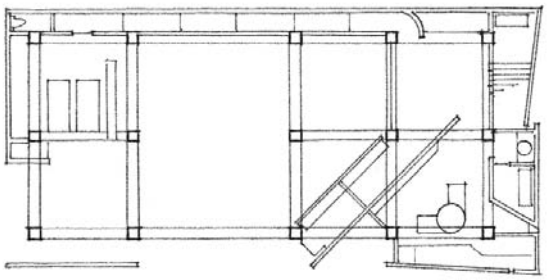


Gandhi Ashram Museum, Ahmedabad, India, 1958–63, Charles Correa

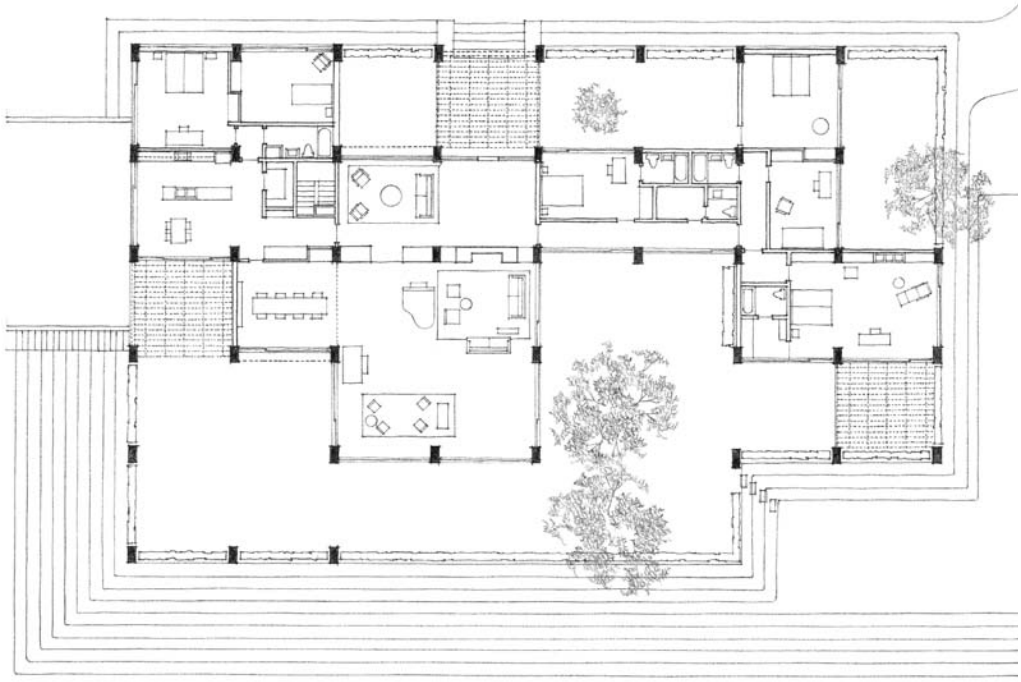


Snyderman House, Fort Wayne, Indiana, 1972, Michael Graves

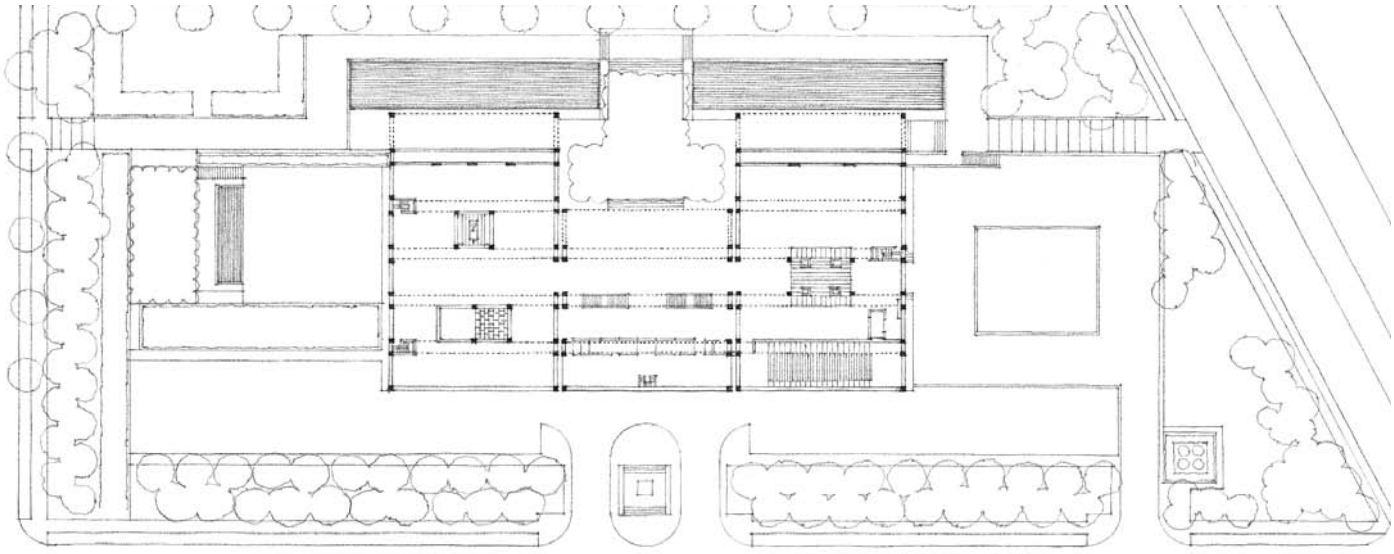




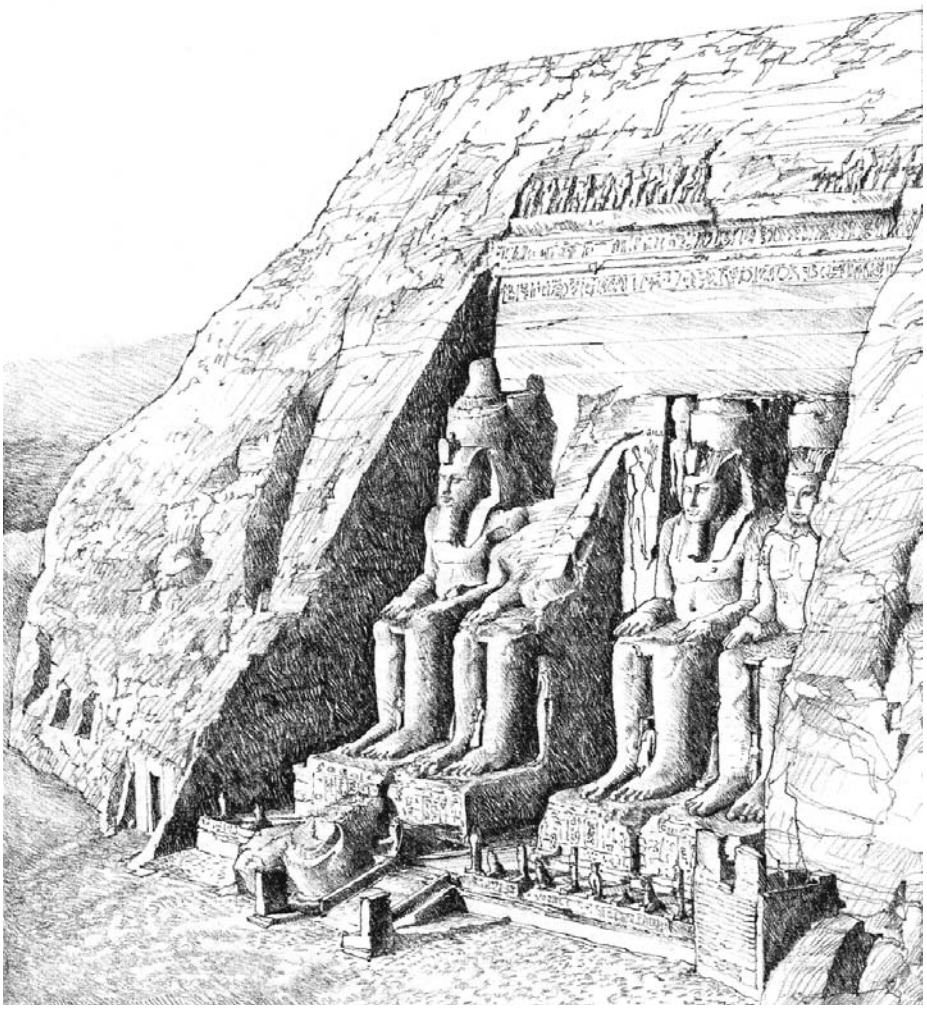
Manabe Residence, Tezukayama, Osaka, Japan, 1976–77, Tadao Ando

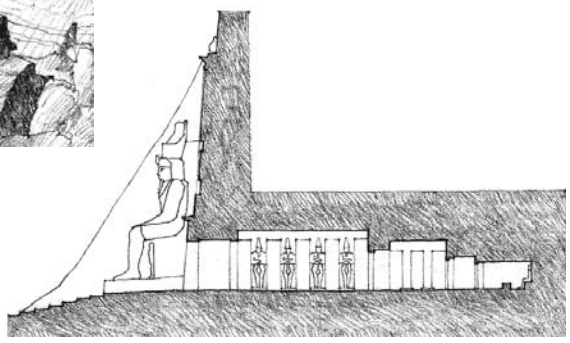


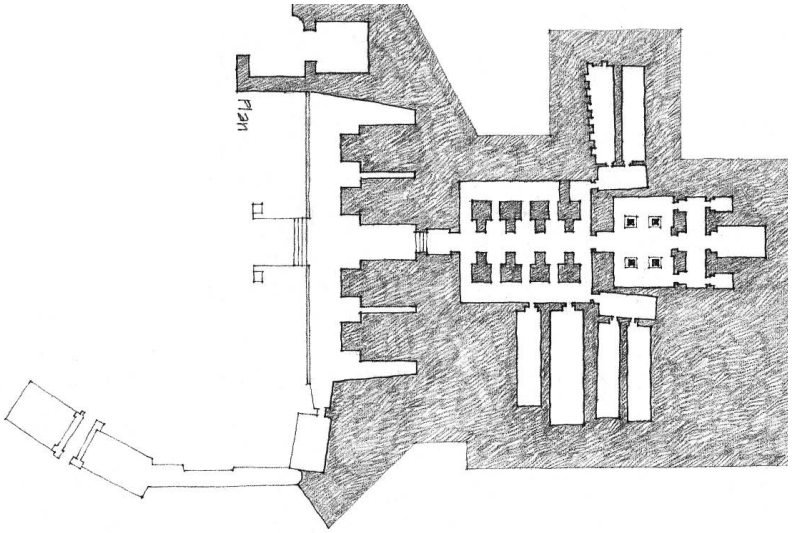
Eric Boissonas House I, New Canaan, Connecticut, 1956, Philip Johnson



Kimball Art Museum, Forth Worth, Texas, 1967–72, Louis Kahn







Abu Simbel, *Great Temple of Rameses II, 1301–1235 B.C.*