

Architectural Representation: Visualization and Description

(Architectural Perspective on Design)

Lecture 2: Modeling and Perception

- The evolution of architectural language
- Virtual and Physical
- Architectural Models
- Home/House/UnHomey (Uncanny)

The evolution of architectural language

- Architecture has **evolved over time**.
- Architectural **language** and **communication** - how architecture **conveys**: meaning, values, and information through design, materials, forms and spatial arrangements.

Spoken and written language communicates through ideas



Architecture can express cultural identity, social hierarchy, function and emotional impact.



Describing/ Interpreting

describing

Simply identifying and detailing the physical features of a building or space.



Form and shape
Materials
Colors
Layout and floor plan
Ornamentation
Light
Scale and proportions

interpreting

Analyzing and uncovering the deeper meanings, cultural implications, and emotional responses those features provoke.



The "Why" and "How" of Architecture:
Cultural and Historical Context
Symbolism and Meaning
Emotional and Psychological Effects
Architect's Intent
Social and Political Commentary
User Experience

Architectural Language and Communication

James Stirling; RONCHAMP

one reaches the bald crown of the hill on which the chapel is situated. The sweep of the roof, inverting the curve of the ground, and a single dynamic gesture give the composition an expression of dramatic inevitability. The immediate impression is of a sudden encounter with an unnatural configuration of natural elements such as the granite rings at Stonehenge or the dolmens in Brittany.

Far from being monumental, the building has a considerable ethereal quality, principally as a result of the equivocal nature of the walls. The rendering, which is whitewashed over, has been hand thrown and has an impasto of about 2 inches. This veneer suggests a quality of weightlessness and gives the walls something of the appearance of papier-mâché.

Notwithstanding that both roof and walls curve and splay in several directions, the material difference of rendered walls and natural concrete roof maintains the conventional distinction between them. They are further distinguished on the south and east sides by a continuous, 9-inch, glazed strip, and though the roof is not visible on the north and west sides its contours are suggested by the outline of the parapet. There is a similarity between the chapel and the Einstein tower which is even less conventional, but only inasmuch as the walls and roof are fused into one expression.

The whitewashed rendering is applied to the interior as well as to the exterior and the openings scattered apparently at random over the south and north walls splay either inwards or outwards, similar to the reveals of gun-openings in coastal fortifications. On the inside of the west wall these openings splay inwards to such a degree that from the interior the surface takes on the appearance of a grille. It is through this grille that most of the daylight percolates to the interior, yet the overall effect is one of diffuse light so that, from a place in the congregation, no particular feature is spotlighted as in the manner of a Baroque church.

Where the roof dips to its lowest point, a double-barrelled gargoyle projects outwards to shoot rain-water into a shutter-patterned concrete tub. This element is surprisingly reminiscent of South Bank festivalia and something of the same spirit is conveyed by Le Corbusier in his stove-enamelled murals covering both sides of the processional entrance door. The same applies to the inscriptions on the coloured glass insets to the window openings. These linear applications suggest a final flourish and appear superfluous and even amateur in comparison with the overpowering virtuosity in moulding the contours of the solid masses.

The usual procedure in examining buildings—an inspection of the exterior followed by a tour of the interior—is reversed, and sightseers emerging on to the crown of the hill proceed to walk around the building clockwise, completing $1\frac{1}{2}$ circles before entering the chapel where they tend to become static, turning on their own axis to examine the interior.

Echoing the sag of the roof, the concrete floor dips down to the altar-rail which appears to be a length of folded lead. The various altars are built up of blocks

of polished pre-cast concrete (probably with a marble aggregate) which are cast to a marvellous precision. The roof, together with the concrete alms-boxes and swivel-floor, represents an incredible French ingenuity in using this material.

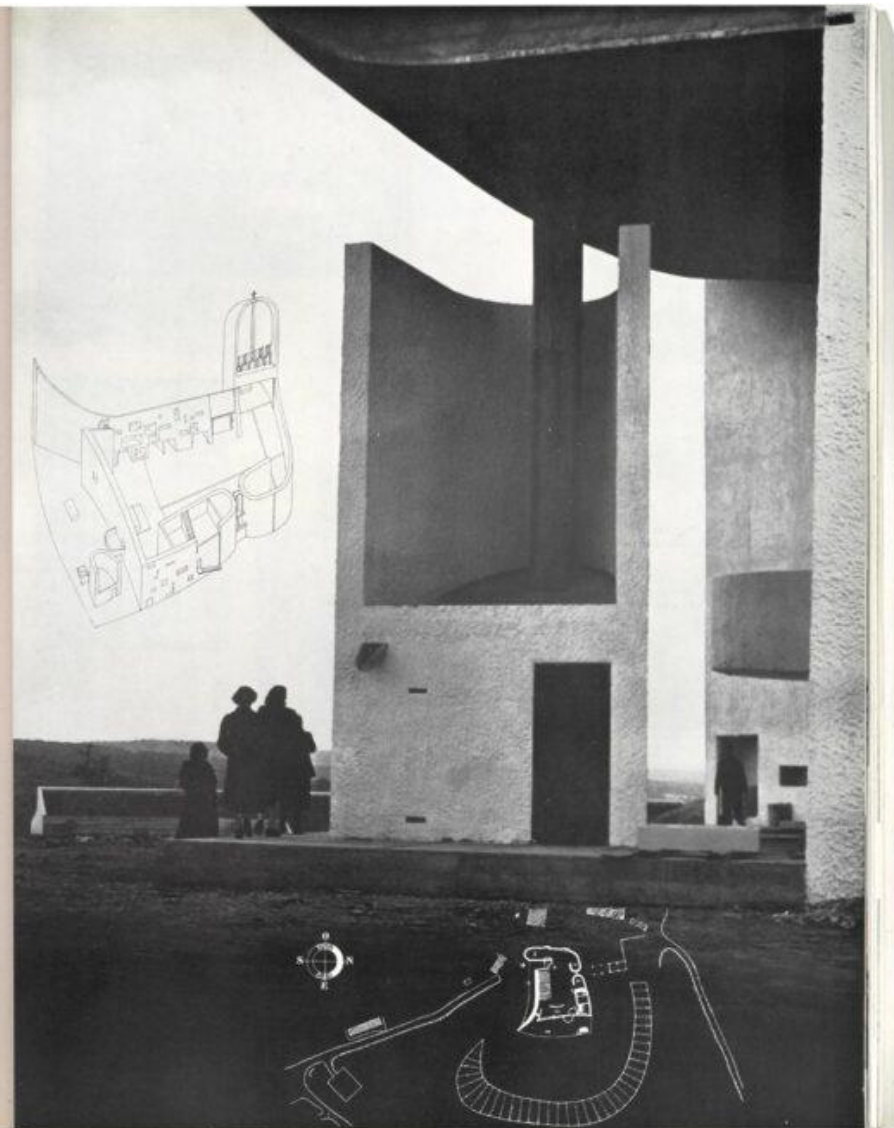
The wall adjacent to the choir gallery stairs is painted a liturgical purple and the whitewash on the splayed reveals of the openings returns on to the purple wall to a width of 3 inches, thus resembling the painted window surrounds on houses around the Mediterranean coast. Small areas of green and yellow are painted over the rendering on either side of the main entrance and also on the reveals to the opening which contains the pivoting statue of the Madonna. The only large area of colour is confined to the north-east chapel and tower; this has been painted red for its entire height so that light pouring down from the top gives this surface the luminosity of 'Dayglow.' The three towers which catch the sun at different times of the day and pour light down on to the altars are in fact vertical extensions of each of the side chapels.

Even with a small congregation, the superb acoustics give a resonance suggesting a cathedral space and the people using the chapel do so naturally and without any sign of embarrassment. As a religious building, it functions extremely well and appears to be completely accepted. It is a fact that Le Corbusier's post-war architecture has considerable popular appeal. The local population, both at Marseilles and at Ronchamp, appear to be intensely proud of their buildings. Remembering the pre-war conflicts, it is difficult to ascertain whether the



1. The chapel under construction and before rendering the walls, which are of load-bearing masonry taken from the old chapel.
2. Opposite, plan and axonometric superimposed as a view across the east wall, with the hotel towards Switzerland.

[continued on page 141]



Historiography Vs. history

History

The actual events and facts of the past.

Historiography

The study and interpretation of how those events have been recorded, analyzed, and understood by historians.

Historiography Vs. history

knowledge

process

facts

perspective

Architecture

History = real events that happened

Historiography = the interpretations of those events:

- why did they happen? What were the motivations behind those events?

The importance of learning history, rely on previous experiences.

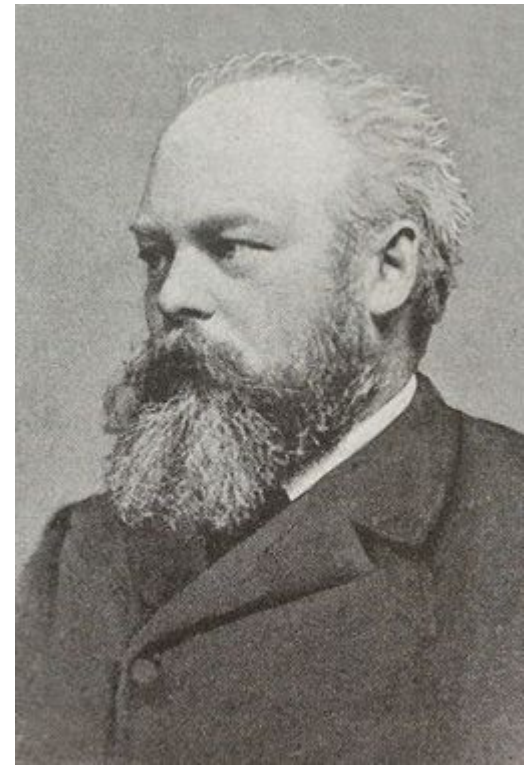
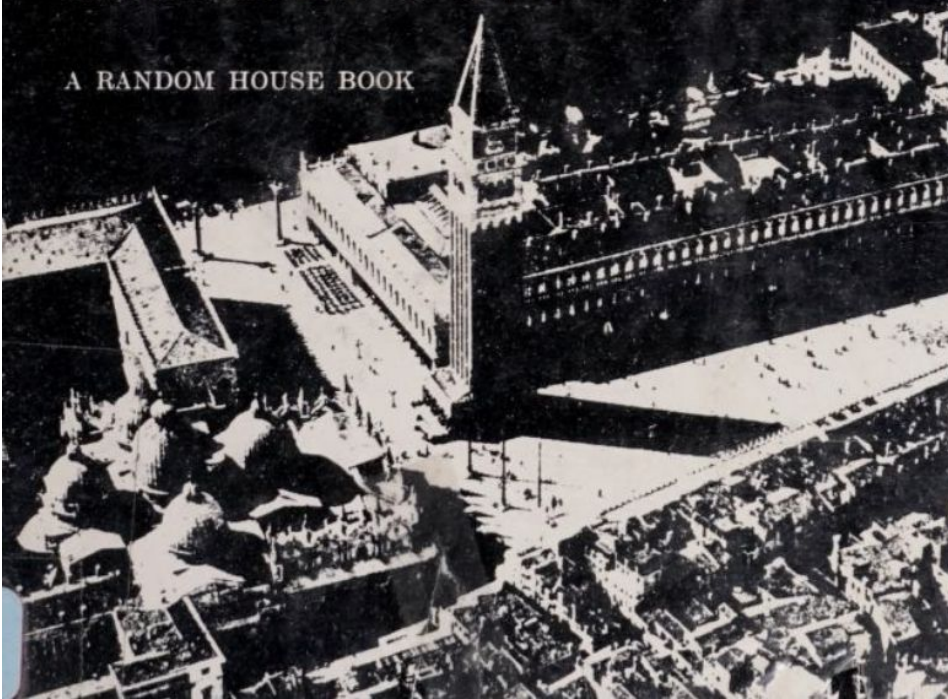
COLUMBIA UNIVERSITY STUDIES IN
ART HISTORY AND ARCHAEOLOGY

CITY PLANNING ACCORDING TO ARTISTIC PRINCIPLES

CAMILLO SITTE

TRANSLATED BY GEORGE R. COLLINS
AND CHRISTIANE CRISEMAN COLLINS

A RANDOM HOUSE BOOK



Camillo Sitte (1843-1903)

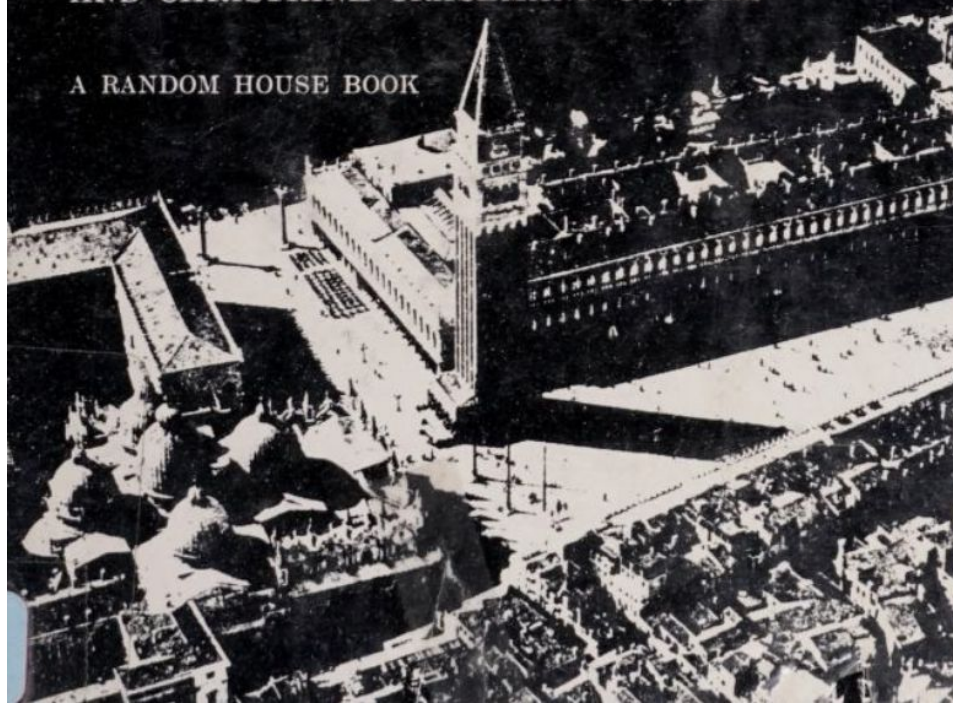
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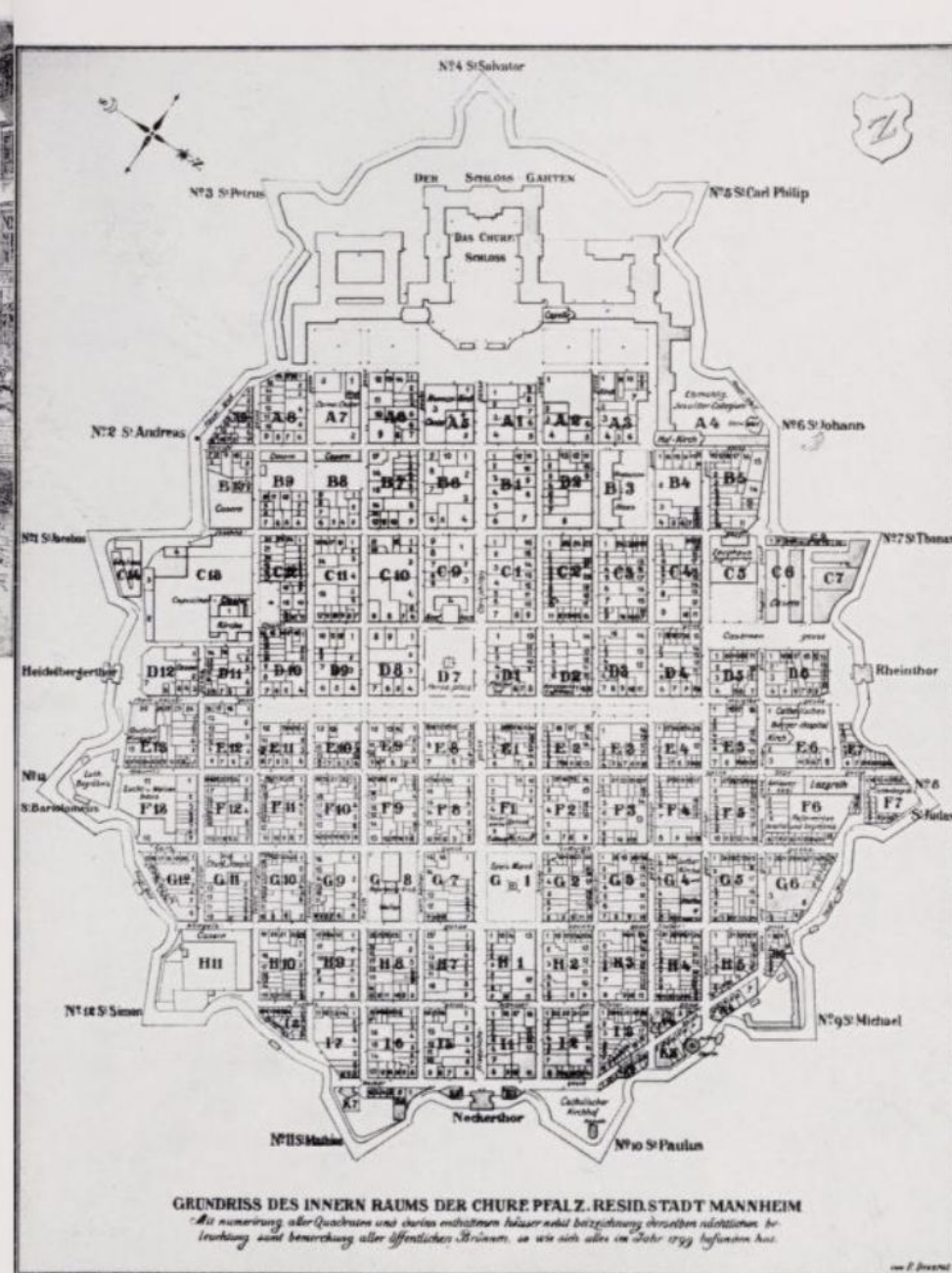
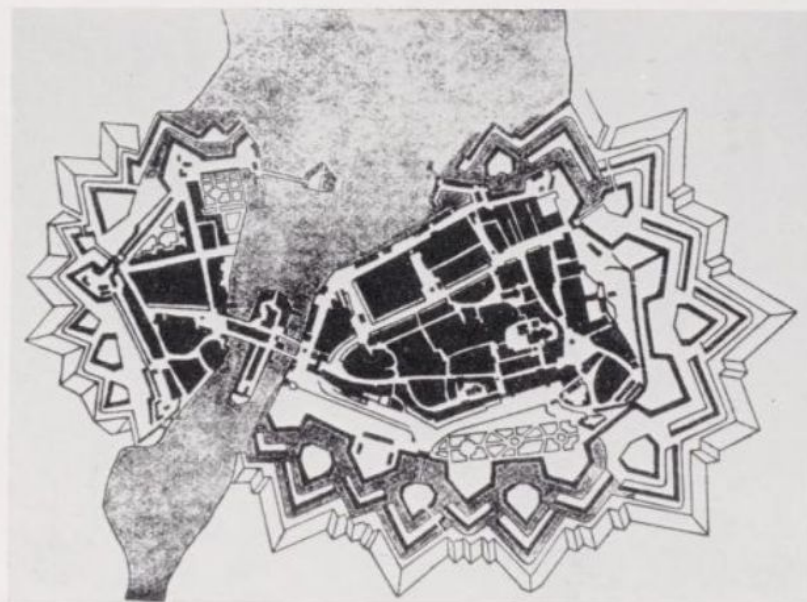
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or four corner streets enters the plaza at a different angle. This remarkable feature occurs so often, and with such a range of variations, that it, too, must be considered to be one of the major conscious or subconscious principles of old city planning. On further reflection, one realizes that by leading the streets off in the fashion of turbine blades, the most favorable condition results, namely, that from any point within the plaza no more than one single view out of it is possible at a time, hence there is only a single interruption in the enclosure of the whole. However, from most vantage points within the plaza its whole framing is seen as an unbroken continuity, because buildings at the openings of streets overlap when seen obliquely, and, owing to this mutual covering, no offending gap is left.

The whole secret consists in the fact that entering streets are laid out at an angle to our lines of sight instead of parallel to them. This is an artifice which, in another context, was employed from the earliest Middle Ages by builders, carpenters, and cabinetmakers, often with the greatest refinement, when they wanted to conceal joints in stone or wood, or at least render them less obvious. The so-called rabbet joint in cabinetmaking owes its origin and frequent use as much to this circumstance as to any other.

Of the examples shown here, the purest type of this ingenious system is the cathedral square in Ravenna (Fig. 22). Similarly arranged are the plaza of the Cathedral of Pistoia

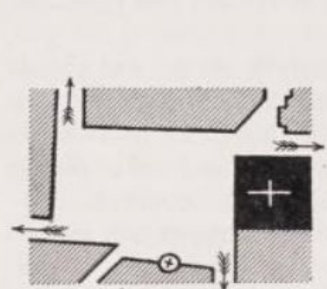


Fig. 22. Ravenna: Piazza del Duomo

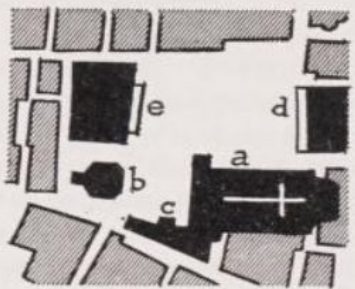


Fig. 23. Pistoia: Piazza del Duomo. a. Cathedral.—b. Baptistery.—c. Bishop's Palace.—d. Palazzo del Comune.—e. Palazzo del Podesta

Importance of Public Squares

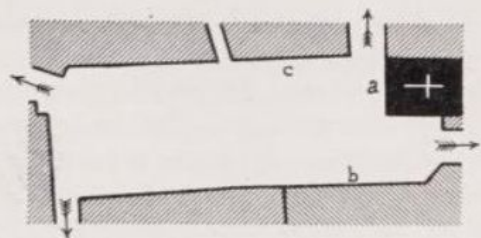


Fig. 24. Mantua: Piazza S. Pietro. a. S. Pietro.—b. Palazzo Reale.—c. Bishop's Palace



Fig. 25. Brescia: S. Clemente

(Fig. 23) and many others. In Mantua the Piazza S. Pietro (Fig. 24) likewise represents this type in a pure form, while the plaza in front of S. Clemente at Brescia (Fig. 25) corresponds to it partially. [See also the Piazza Grande at Parma (Fig. 26).] The rule in question is present, although somewhat more hidden, in the layout of the Piazza della Signoria in Florence (Fig. 27). The broad main streets conform to the principle, while the intermediate alleys narrow down to only a yard's width (next to the Loggia dei Lanzi), and are scarcely noticeable—much less in actuality than on our plan. How, in spite of the opening off of even broad streets, an enclosed tableau

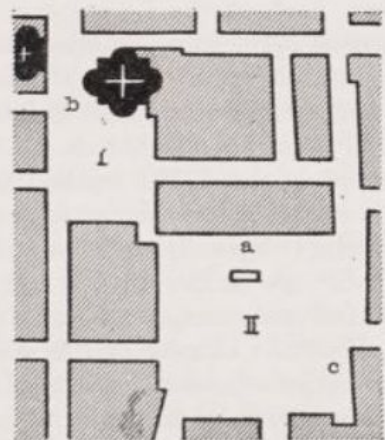


Fig. 26. Parma. I. Piazza della Steccata.—II. Piazza Grande (Garibaldi).—a. Palazzo Comunale (del Governatore).—b. Madonna della Steccata.—c. Palazzo della Podesteria (del Municipio)

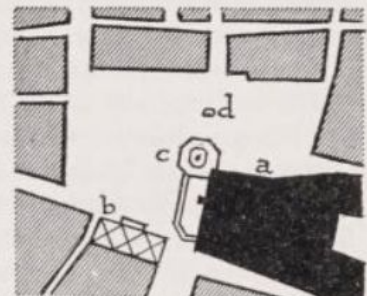


Fig. 27. Florence: The Signoria.—a. Palazzo Vecchio.—b. Loggia dei Lanzi.—c. Fountain of Neptune.—d. Statue of Cosimo I

Delphi and other places. Their architecture, sculpture and painting are united into an artistic synthesis [*Gesamtwerk*] that has the sublimity and grandeur of a great tragedy or a mighty symphony. The consummate example of this is offered by the Acropolis in Athens (Pl. I-b, Fig. 4), the top of which, unencumbered in the middle and encircled by high ramparts, presents the customary pattern. The lower entrance gate, the monumental staircase, and the marvelously wrought Propylaea, form the first movement of this symphony composed in marble, gold and ivory, bronze, and polychromy; the temples and monuments of the central space are the very myths of the Hellenic people turned into stone. The most elevated poetry and thought has found spatial embodiment here at this hallowed spot. This is the true center of an important city, where a great people's philosophy of life becomes tangible. It is not merely a part of a city plan in the usual sense, but the product of centuries evolved into a genuine work of art.

To set oneself a higher goal in city building is impossible. Even the attainment of something similar to it has seldom been achieved. However, we must never relinquish the memory of works of such an elevated character, but should constantly be inspired by them as our ideal in similar undertakings.

In the course of further examination of the artistic principles by which such creations came into being, it will become apparent that the most essential compositional ideas were not lost, but actually have preserved themselves even up to our own day, and it would take only an auspicious touch to put them into effect again.

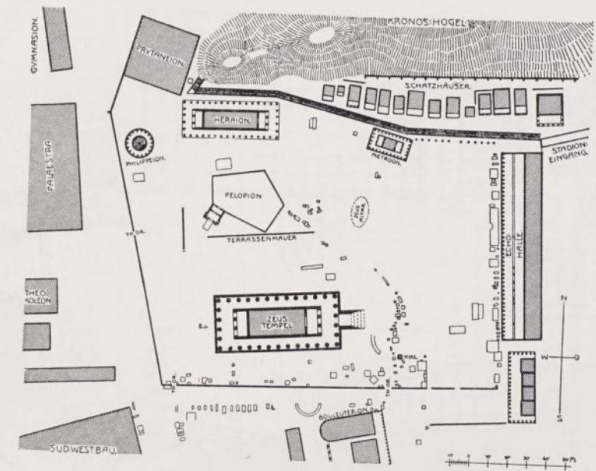


Fig. 3. Olympia: Festival precinct in Greek times

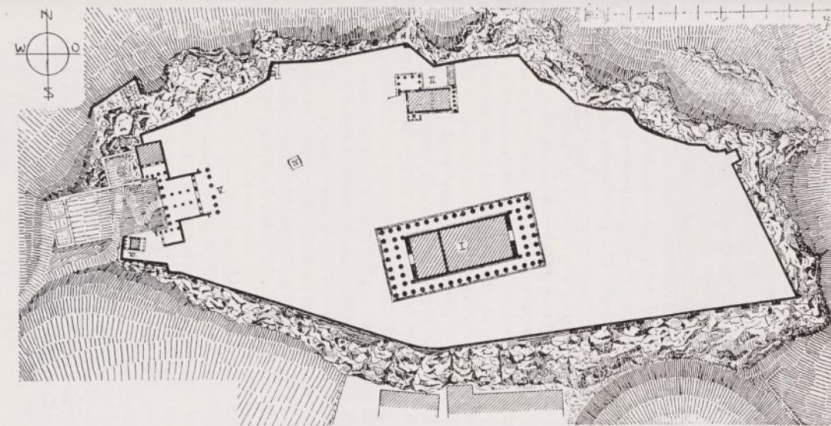


Fig. 4. Athens: The Acropolis in the time of Pericles. I. Parthenon.—II. Erechtheum.—III. Porch of the Maidens.—IV. Athena Promachos.—V. Propylaea.—VI. Temple of Nike



CONCLUSION*

MANY attempts have been made in modern times to revive ancient city planning with its forum-like public squares. Painters and architects relish the idea of restoring ancient plazas, and the numerous beautiful vistas which we owe to their devotion to a vanished ideal show that even today one can still accomplish fine things. All these attempts, however, have shared the common fate of remaining on paper. For instance, already more than thirty years ago Ernst Förster wrote in his biography of the architect Johann Georg Müller: 'The fact that the large new edifices in Munich stand isolated and are thus deprived of the effectiveness that, despite certain faults and inconsistencies, they would have if they were placed together, gave Müller the idea of designing a large complex of buildings in which were to be united on one plaza the Cathedral, Rathaus, Library, Bourse, etc.' That this purely theoretical project never received consideration is understandable since it was merely a study. However, later in 1848 Müller entered the competition for the lower parts of the Rue Royale in Brussels, and he did this with a plan in the spirit of the ancient forum. While his competition entry received a prize and was praised, it was not carried out.

The ill fate of the Dresden project by Semper has already been described. It is especially indicative of the nemesis that haunts the planning of towns as works of art in our time because the most influential circles were keenly interested in his project and the execution of it was actually underway. But

* This concluding statement was omitted from the French and Italian editions.

even this which originated under what were apparently very auspicious conditions was not to be a success. In the face of a history of such unfortunate experiences it takes considerable courage to cling to the ideal of city planning as an art, and one might almost conclude that our exceedingly prosaic times have already lost the ability to create anything great and beautiful in this field. It may, however, still be possible, for, as was already mentioned, a lucky star seems to hover over the city-expansion project for Vienna. One must remember that the most difficult and costly part of this vast new project is already completed and that there remains only the easier and, by comparison, lesser task of fitting what is finished into a proper setting. The painting, so to say—the main thing—is completely done, and only the frame is lacking. This means that the situation has in it something compelling which sooner or later must resolve itself on its own. Yes, even the moment when this resolution might commence seems predictable, considering that the most splendid forum-like layout by far—the new Burgplatz—is really approaching its completion and is a project of such intellectual scope and financial outlay as has never been carried out anywhere since the construction of St. Peter's Square in Rome. Who would not be encouraged by this? In this case one can foresee the course of events with accuracy. One of its buildings is already rising, and in the not too distant future the second one opposite it will also be started [never was]. After the Hofburg is completed, the old Burgtor will come down, and the great and noble plaza will suddenly become perceptible as an ensemble. However, with this will arrive the decisive moment in which the future of the whole will be decided: the moment when the two triumphal arches intended to close off the Ringstrasse have to be undertaken, since only the completion of these structures will fuse the entire plaza into an artistic unity [also not done]. Then there will arise spontaneously the desire for a stylistically appropriate end-piece in the direction of the Imperial Stables: an architectural motif running across and corresponding to the lower half of the Imperial Museums [never built].

The tremendous effectiveness of this plaza, now still in its formative stage, will not fail to exert a powerful aesthetic

influence on its environs, so that it will become quite impossible to endure any longer the formlessness of the awkward space in front of the nearby Palace of Justice and the confusion around the Parliament building. The moment will then have arrived to do something here in the same ideal spirit that marks the fine example of our model, the new Hofburgplatz.

One might conclude that it will then no longer be a matter of opinions for and against, since everyone will be of the same conviction, but merely of how to raise the funds to complete the rest of the structures. But this ought not to be difficult because the population of Vienna will certainly have increased, with nothing built in the center for some time, and it can be seen from our sketches that a number of large new lots are available for profitable private use. The proceeds from these building sites would certainly cover the cost of a large part of the necessary arcades, and so again it is only a matter of opinion—whether such a layout meets with general approval or not.

For the layman this might be a difficult decision to make, because if the experiment should fail it would result in a great disaster since the buildings already constructed would have to be left standing. But there is an alternative, which we shall describe here briefly, not out of any particular penchant for dreaming of castles in the air, but as a practical suggestion which is not only feasible here but can be followed elsewhere. One could use the space in front of the Votive Church as the grounds for an exhibition, appropriate because the temporary exhibition pavilions of painted boards would actually be a life-size model of the projected plaza architecture. Even the layman could then gauge the final effect, and the public would certainly be in a position to decide whether construction should be embarked upon in accordance with the model or not. The expert, it is true, can judge the suitability of the project immediately on the basis of our ground plan.

In any case, neither here nor in the several modifications to the Rathaus plaza should the lots be entrusted to the buyer for his free disposition. This would spoil everything right from the start because the individual architects would probably compete with each other's façades. In this instance planning

of the entire group of buildings should be completed in advance so that a desirable and harmonious ensemble is achieved and everything is keyed to the appearance of the principal building. The title to each parcel of land could carry with it the obligation to follow the approved plan without untoward variation in the building-exterior. This hypothetical situation we have discussed is another illustration of an important point, universally applicable: nowadays we build in all styles and tastes, and nobody has the inclination to bother about his neighbor; it is no longer as it was in the good old days, when the matter of a choice of style was still unthought of, and all buildings spontaneously turned out to be in harmony with each other and with their group as a whole. One should never presume that in such an important matter it would suffice to give a few rules in writing to the new owner of the site, because the weirdest possible whims would be expressed in spite of the strictest regulations.

This, then, suggests how our example of city building can be practicably executed. Although only a project, it has been fitted into the framework of this book as an exemplar because it is easier this way than by academic theorizing to make clear the essentials and the tasks of artistic city building in our day. Other aspects of urban reorganization should be dealt with in the same fashion; thus in Vienna the covering-over of the River Wien, the designing of the Schwarzenbergplatz, of the square in front of the Karlskirche, and of the Freihaus area ought not to be treated merely as technical problems but also as artistic questions of the greatest importance. This is also true for the parcelling of land on the site of the outer fortifications [*Linienwall*] and elsewhere.

One thing is certain: we today confront these tasks with a much deeper sense of responsibility than even a few decades ago, and evermore so, the more experience we gather in this field. If anyone in our day spoils a town plan in the face of the many good and bad examples that already exist, he assumes a heavy burden of guilt for the crime. It is not necessary now to rush into these matters as was the case when towns suddenly were beginning to expand everywhere in a totally unexpected fashion and the spirit was lacking to meet the

onslaught head-on. Today it is the duty of professional planners everywhere to consider each detail of large land parcelings with great care—also the artistic side—and it would be best if the popular checkerboard pattern of blocks in city expansions were cast aside once and for all, along with other such expedients. If aesthetic aspects were to receive more attention, and if by means of frequent competitions artistic potentialities were relied upon more frequently, we could accomplish some good, at least as regards method—although the great ideals of the ancients may still remain unattainable for some time to come.



**Human Scale and
Proportion**

Harmony

Intimacy and Surprise

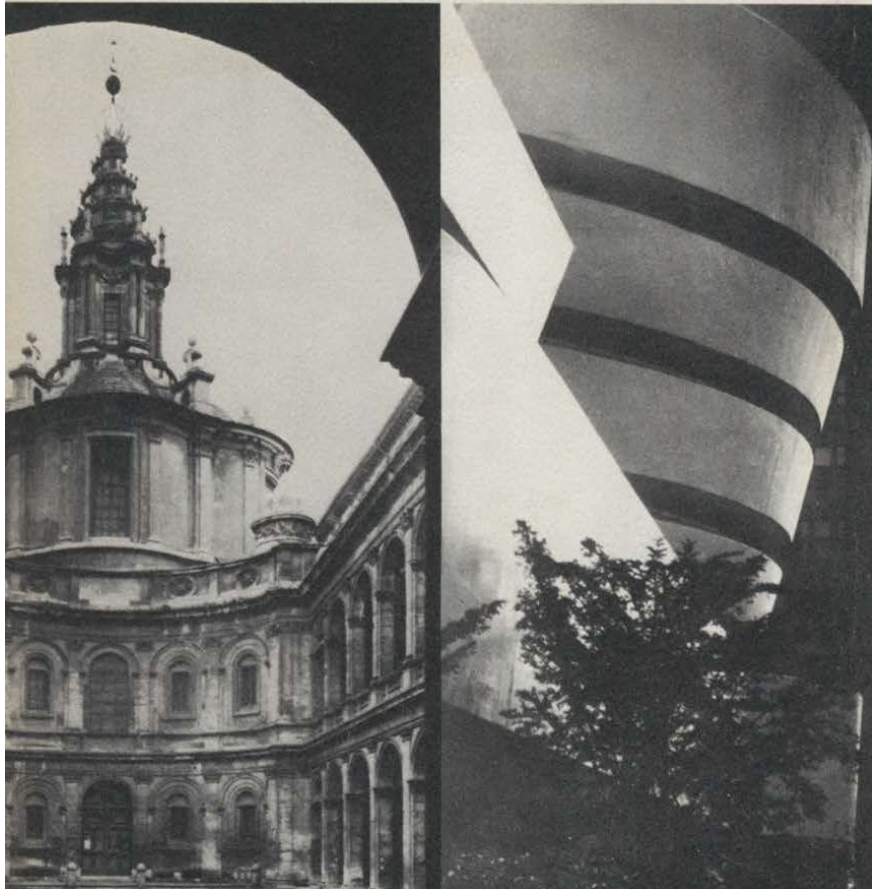
**Street Layout and
Irregularity**

**Curved and Narrow
Streets**

Bruno Zevi, The Modern Language of Architecture (1973)

Bruno Zevi

The Modern Language of Architecture



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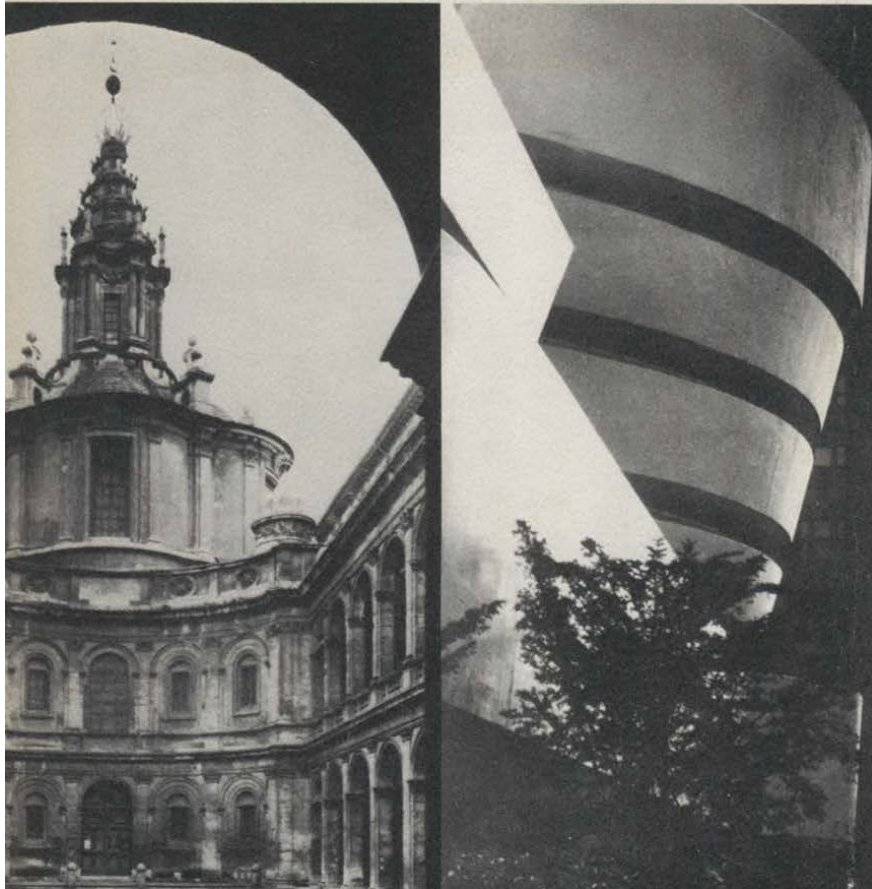
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Bruno Zevi, *The Modern Language of Architecture* (1973)

Bruno Zevi

The Modern Language of Architecture



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The Modern Language Of Architecture

Introduction: Speaking Architecture

In 1964 John Summerson published a short book entitled *The Classical Language of Architecture*, which has been very successful throughout the world. I waited a decade for its logical and necessary sequel, "The Anticlassical Language of Architecture" or, rather, "The Modern Language of Architecture," but neither Summerson nor anyone else wrote it. Why not? One can imagine a host of daunting reasons. Nevertheless the gap needs filling. It is the most urgent task facing architectural history and criticism today. It cannot be postponed, it is already long overdue.

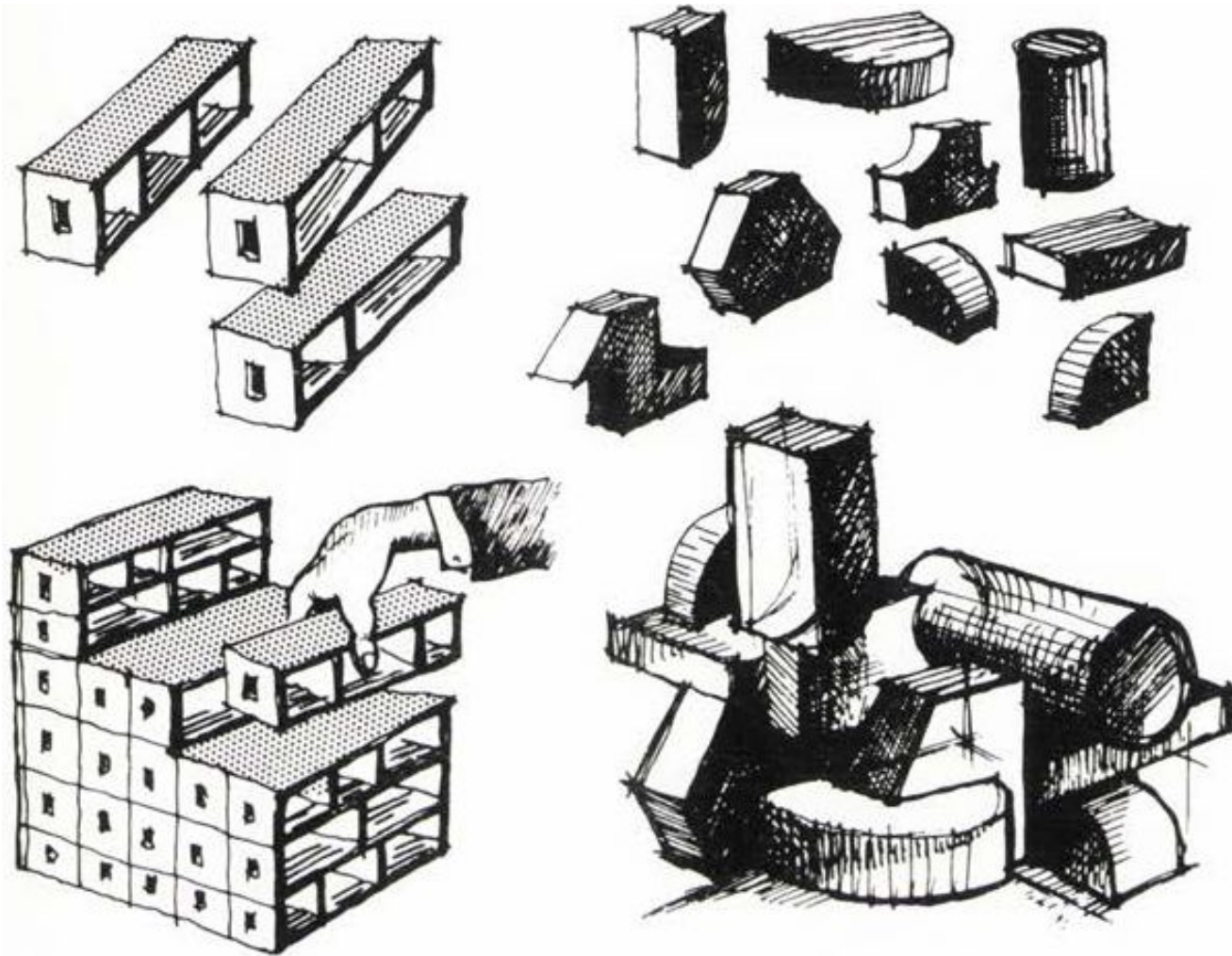
Without a language, we cannot speak. What is more, it is language that "speaks us," in the sense that it provides the instruments of communication without which it would be impossible even to work out our thoughts. Yet in the course of centuries only one architectural language has been codified, that of classicism. None other has been processed and put into the systematic form required of an acknowledged language. All were considered exceptions to the rule, the classical rule, and not alternatives to it, with a life of their own. Even modern architecture, which emerged in reaction against neoclassicism, runs the risk of reverting to stale Beaux-Arts archetypes unless it is structured into a language.

This is an incredible and absurd situation. We are squandering a colossal heritage of expression because we shirk the responsibility of transcribing it and making it transmissible. It may not be very long before we forget how to *speak architecture* at all. Indeed, most people who are designing and building today can barely mumble. They utter inarticulate meaningless sounds that carry no message. They do not know how to speak. They say nothing and have nothing to say. There is an even more serious danger facing us. If the modern movement is ever jettisoned, we may



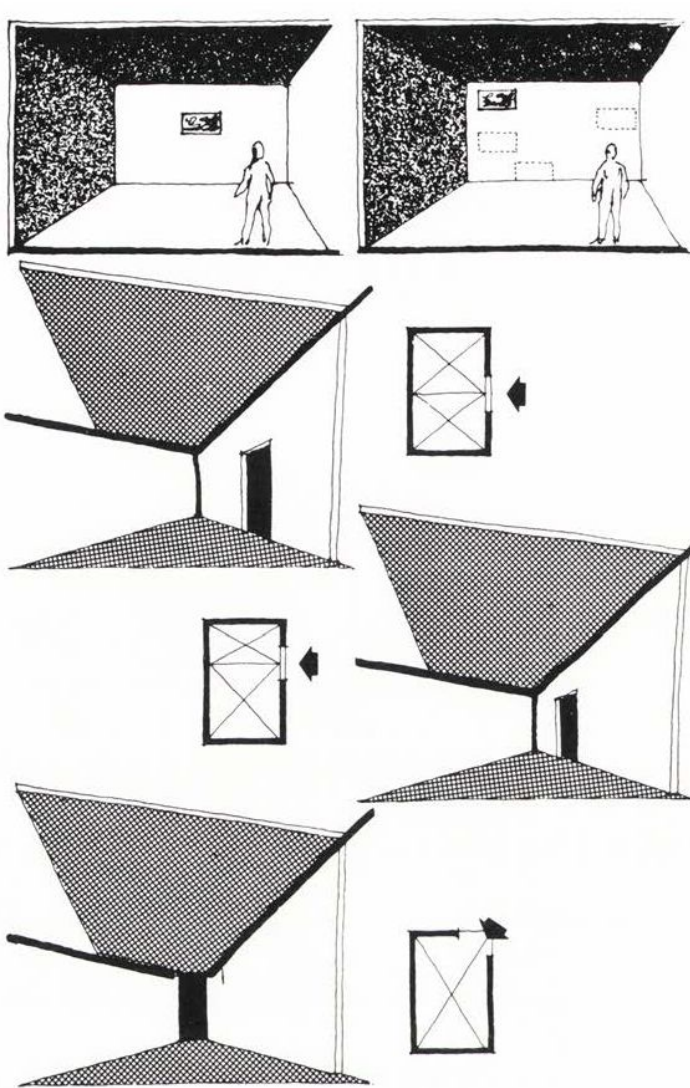
1. The dictatorship of the straight line (cartoon by Mauris). It is responsible for the mania of parallels, proportions, chessboard layouts, and right angles—the lexicon, grammar, and syntax of classicism. The monuments of so-called "classical" antiquity have been manhandled to conform to this abstract a priori ideology.

The Modern Language Of Architecture



3. The methodology of listing functions, applied to volumes. Old and pseudo-modern classicism boxes man's activities, ignoring their specific differences. Then it sets the boxes above and beside each other to form a larger box (*left*). Listing gives meaning back to volumes, groups them, but preserving their individuality (*right*).

The Modern Language Of Architecture



4. Where to hang a picture. Anywhere except in the middle of a wall (above). Where to put a door. Anywhere except in the middle (center). The farther the door is from the middle, the deeper the room will look (center, below). The corner door is the ideal: it enhances the diagonal (below).

The Modern Language Of Architecture

Asymmetry and Dissonance

Where then? *Anywhere else*. When you criticize something for being symmetrically arranged, and you are asked where else to put it, your answer should be: *anywhere else*. There is only one place that is radically wrong, the place that is selected “spontaneously,” dredging up all the atavistic conventions of the subconscious.

We can take an even simpler example than the window to demonstrate this, a picture. Here is a wall. Where shall we hang the picture? In the center, of course. No, *anywhere else*. To the right or left, higher up or lower down, anywhere but there. If you hang the picture in the middle, it splits the wall into two equal parts. It reduces the visual dimensions and makes them trivial. The picture seems to be framed and isolated by the wall, when it could open up the room and give it breathing space.

Symmetry is one of the invariables of classicism. Therefore asymmetry is an invariable of the modern language. Once you get rid of the fetish of symmetry, you will have taken a giant step on the road to a democratic architecture.

Symmetry = economic waste + intellectual cynicism. Any time you see a house consisting of a central core with two symmetrical lateral extensions you can reject it out of hand. What is in the left wing? The living room, perhaps. And in the right one? Bedrooms and bathrooms. Is there any conceivable reason why the two enveloping volumes should be identical? The architect wasted space by enlarging the living room to make it the same size as the bedrooms. Or else he restricted essential functions of the sleeping area to keep it the same size as the living room. And look at the height of the ceilings. Why should a vast living room

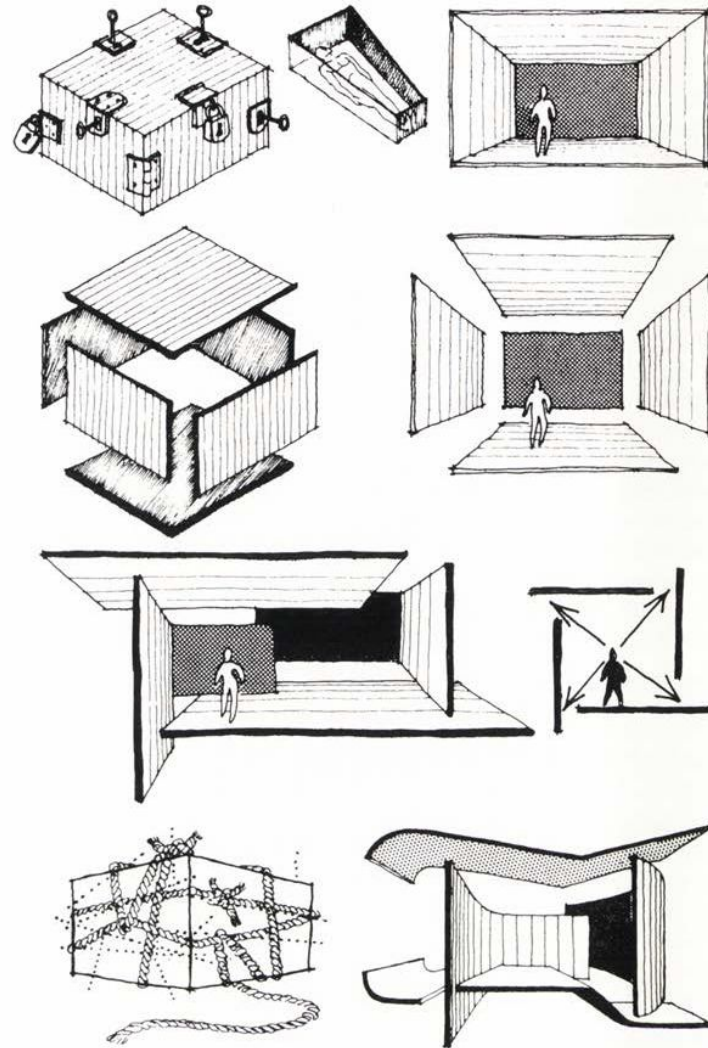
The Modern Language Of Architecture

The Syntax of Four-dimensional Decomposition

De Stijl theory, the only coherent attempt to draw up a code for modern architecture, offered a rigorous procedure that could be applied generally. If the problem is to get rid of the perspective block, the first thing to do is eliminate the third dimension by decomposing the box, breaking it up into panels. No more closed volumes. What happens to a room? It is no longer a cubic void. There are six plans: the ceiling, four walls, and the floor. Separate the joinings, keeping the planes free; then light will penetrate even the darkest corners of the room, and its space will take on new life. A simple operation no one had thought of before, yet it was a decisive step on the way to architectural emancipation. The interior space is still somewhat cubical, but it looks completely different with this sort of lighting.

Let us follow this line of inquiry. Once the plans are separate and independent, they can be extended beyond the perimeter of the old box and spread out, go up or down, and reach beyond the limits that used to cut off the interior from the exterior. House and city can be transformed, Mondrian fashion, into a panorama of blue, yellow, red, white, and black panels. Once the box has been dismembered, the planes no longer form closed volumes, containers of finite spaces. Instead the rooms become fluid and join up and flow in a moving continuum. The static quality of classicism is replaced by a dynamic vision, with the element of time added or, if you will, with a fourth dimension.

There was enough in De Stijl theory to nourish the language of architecture for decades. It would have been an easy step from planes to curved and wavy surfaces and free forms, with a wealth



11. The box encloses, confining one like a coffin (*above*). But if we separate the box's six planes, we have performed the revolutionary act of modern architecture (*second row*). The panels can be lengthened or shortened to vary the light in fluid spaces (*third row*). Once the box has been broken up, the spaces can perform their functions in total freedom (*below*).

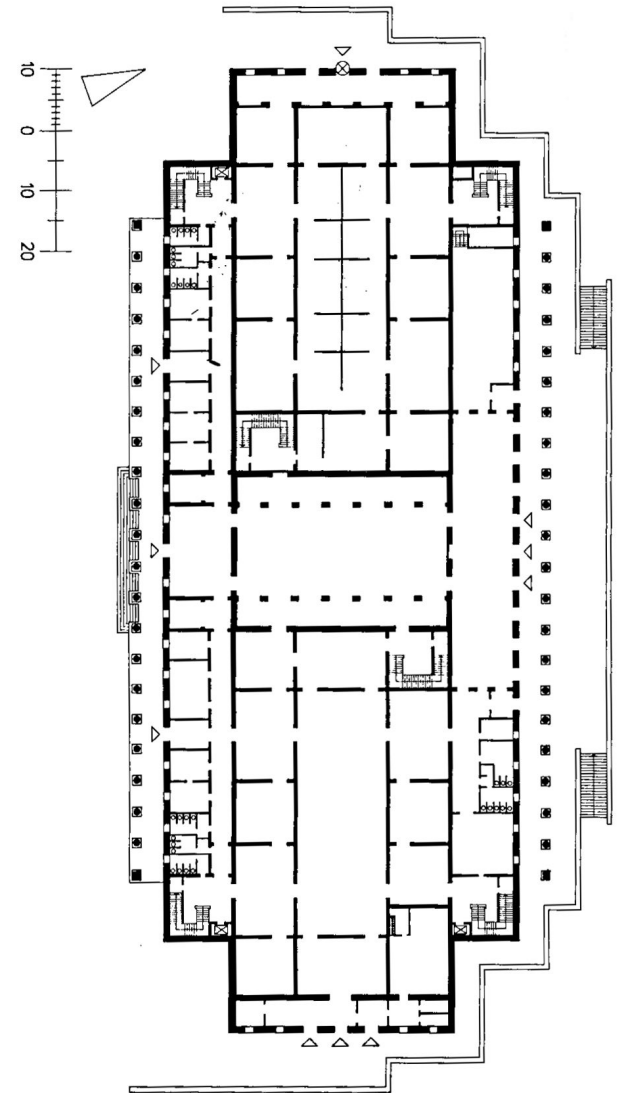
The Modern Language Of Architecture

Zevi: Anti-Symmetry and Anti-Formalism
Architecture as Process, Not Product.



Philadelphia Museum of Art (1876)
Horace Trumbauer, Zantzinger, Borie and Medary,. Howell Lewis Shay, Julian Abele

The Modern Language Of Architecture



Haus der Kunst, Munich, Paul Troost (1933-37)

The Modern Language Of Architecture

✱ STARTING TO FEEL CLOSING-STRETCHY

METROPOLIS

Of Course Trump Hates Brutalism

Buildings like the FBI headquarters are everything Trump is not.

BY HENRY GRABAR JULY 31, 2018 • 4:07 PM



<https://slate.com/business/2018/07/why-trump-hates-brutalist-buildings-like-the-fbis-headquarters.html>

The Modern Language Of Architecture

Materials age and change over time (not here...)

PATINA

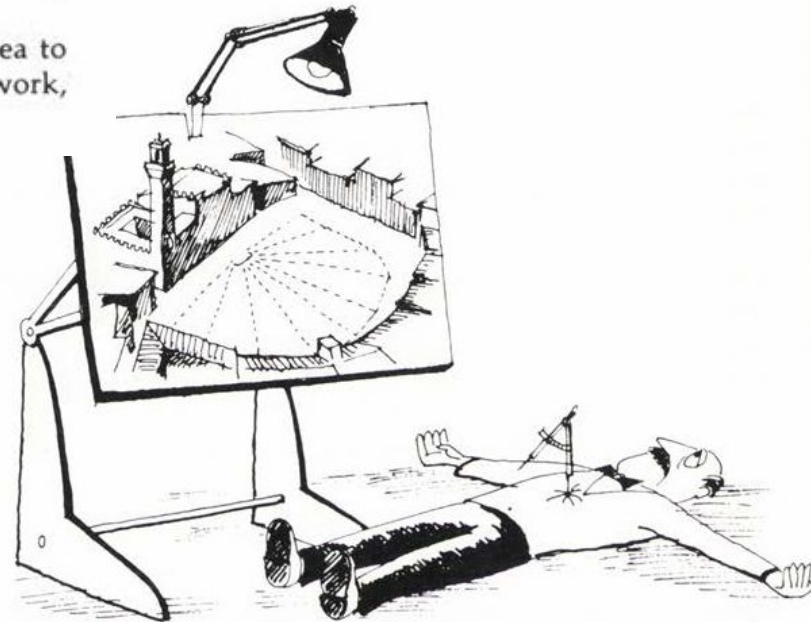


Richard Rogers Partnership, Office, housing and retail blocks (Debis B4/B6/B8), Potsdamer Platz, Berlin: the office blocks (1999-2009)

The Modern Language Of Architecture



17. The architect of the future (cartoon in *AIA Journal*). He describes his idea to a secretary, who feeds the information to a computer. The machine goes to work, and a robot builds the three-dimensional structure.



7. It would be extremely difficult to represent a medieval urban layout (for example, Siena's Piazza del Campo) using T-squares, compasses, and drafting machines. These tools are good only for boxy architecture, which can easily be represented in perspective.

Virtual and Physical

Mies van der Rohe stands with a scale model for Crown Hall in Chicago.



Virtual and Physical



Ludwig Mies van der Rohe, Crown Hall, IIT, Chicago (1950–1956)

"virtual" and "real"

*The famous pipe. How people reproached me for it! And yet, could you stuff my pipe? No, it's just a **representation**, is it not? So if I had written on my picture 'This is a pipe', I'd have been lying!*

— René Magritte



Virtual and Physical

"Real" architecture refers to the physical, tangible structures that exist in the built environment.

—

Materiality

Spatiality

Sensation

Functionality



"Virtual" architecture refers to architectural designs or environments that exist in digital or conceptual space, rather than in the physical world.

(obviously)

—

Digital Representation

Immateriality

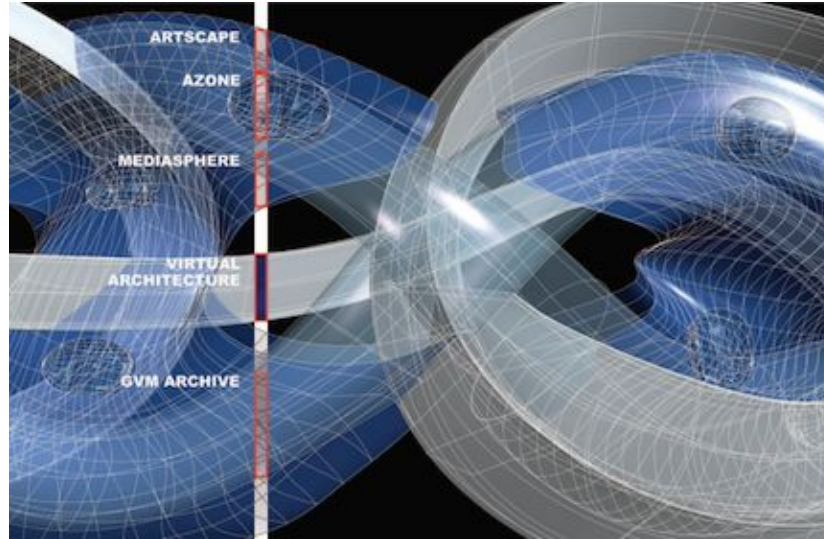
Experiential

Speculative Design

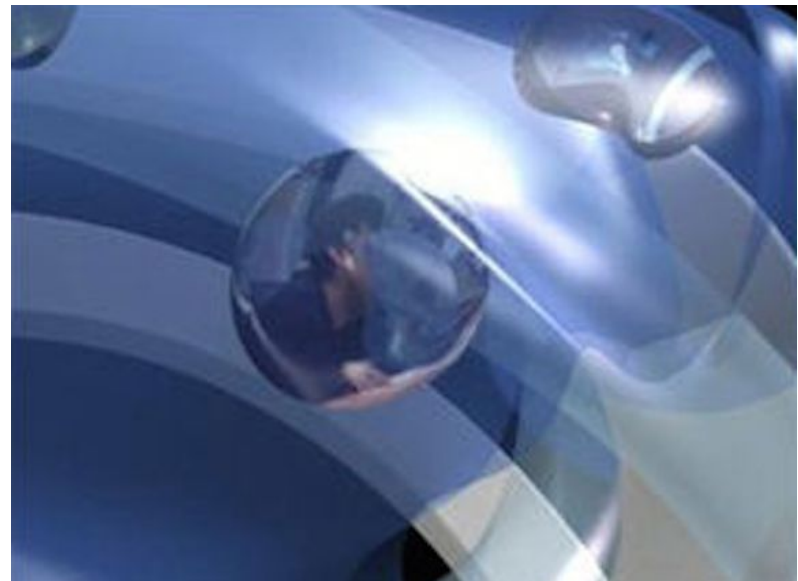
Virtual and Physical

Virtual Museum, Guggenheim Museum, Asymptote Architecture (1997)

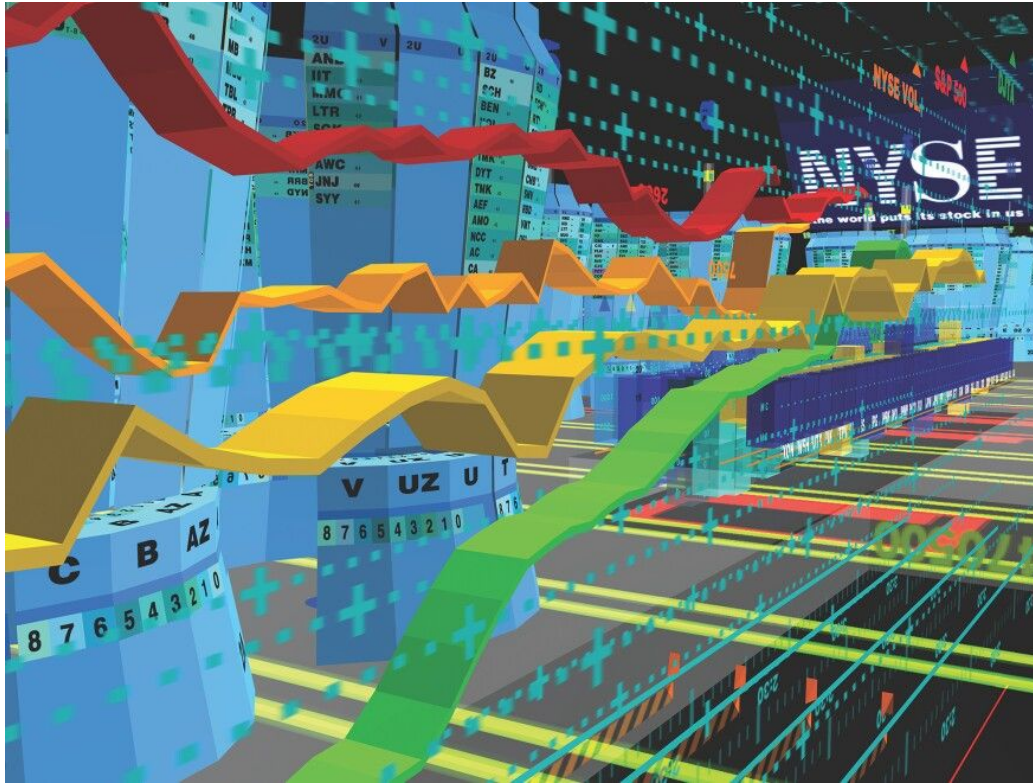
“The Virtual Museum marked the first substantive commitment to interactive, computer-based works of art by a major U.S. museum.”



Hani Rashid and
Lise Anne
Couture

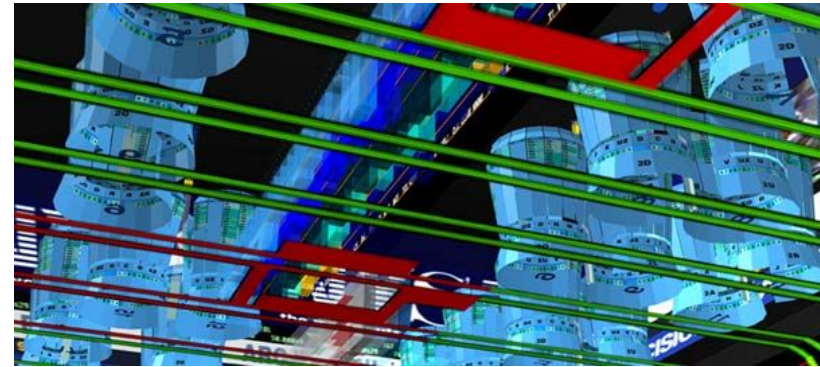


Virtual and Physical



New York Stock Exchange (virtual trading floor), Asymptote Architecture (1999)

https://www.architectmagazine.com/design/asymptote-moves-beyond-the-baroque-blob-to-rococo_o



The Lawnmower Man (1992)



The Mukaab: A Gateway to Another World



Virtual and Physical

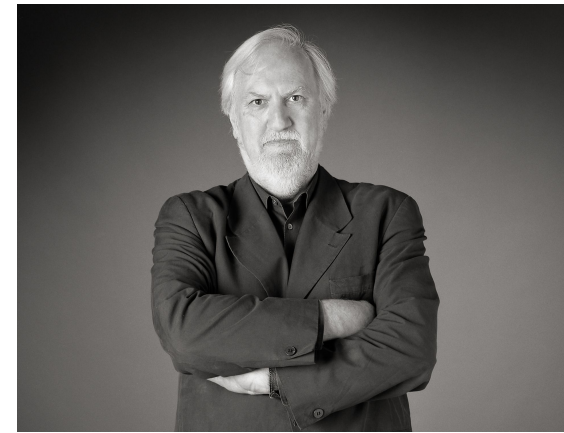
"Real" architecture

"Virtual" architecture

- The line between virtual and real architecture is increasingly blurred due to advancements in technology.
- Virtual models play a crucial role in the design process of real architecture, allowing architects to explore ideas, simulate environments and refine their designs before they are physically built.
- In other cases, virtual architecture can exist independently, providing immersive experiences in the digital realm (video games, metaverse platforms, etc.).
- There are benefits, but there are also dangers.

Anthony Vidler, Diagrams of Diagrams: Architectural Abstraction and Modern Representation

“Diagrams have transitioned from being mere representations or tools for analysis, to becoming fundamental to the generation of architectural forms themselves.”

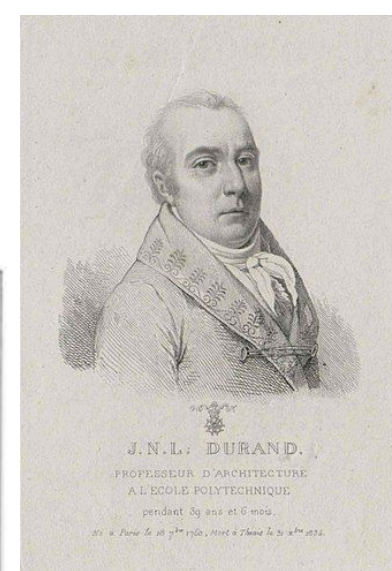


ITS SURFACE SEEMS SLICK, PERHAPS reflective, often translucent, skinlike, visually viscous; its form appears curved, ballooned, bulging, segmental, warped, and twisted; its structure looks webbed, ribbed, and vaulted; its materials might be synthetic, resinous, metallic, and alloyed; its interior would be cavelike, womblike, tunneled, burrowed, and furrowed; its furniture and fittings are envisaged as soft, almost porous in texture, cast or injected, molded, and sensitive to heat and light. Its architect calls it a “blob^{*},” and compares it to a history of similar objects in nature that cultural theory since Georges Bataille has identified with the **informe*. The techniques of its design are drawn not from architecture but from animation software that generates its complex forms with the help of digital avatars that work, independent of the architect, to produce multiple iterations of possible combinations.¹

^{*}blob = binary large object

^{*}Georges Bataille, “informe” (formless) : <http://radicalart.info/informe/>

Anthony Vidler, Diagrams of Diagrams: Architectural Abstraction and Modern Representation



Jean-Nicolas-Louis
Durand (1760–1834)

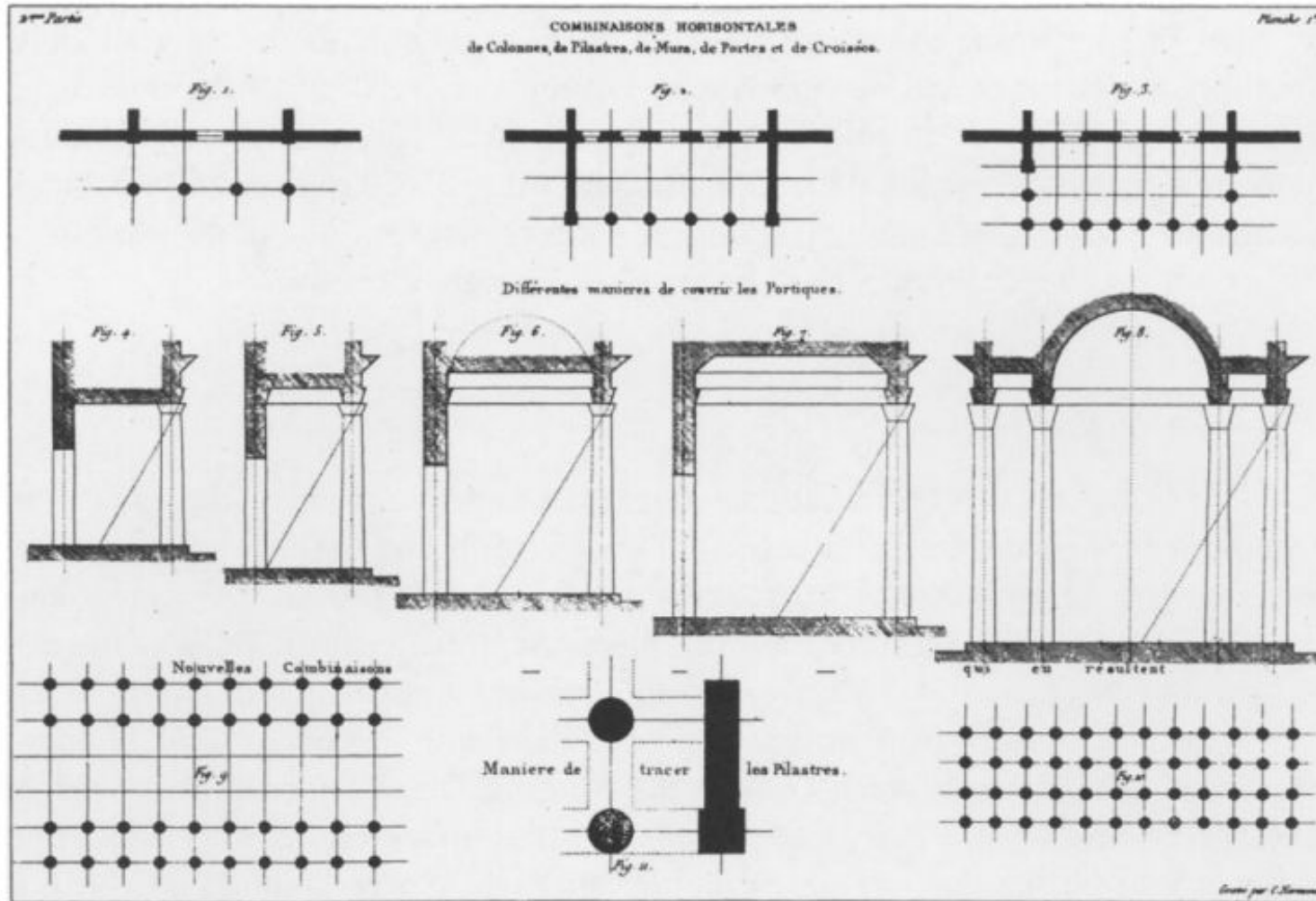


FIGURE 3. J.-N.-L. Durand, "Horizontal Combinations," in *Précis des leçons d'architecture* (Paris, 1819), 1: plate 1, part 2.



Anthony Vidler, Diagrams of Diagrams: Architectural Abstraction and Modern Representation

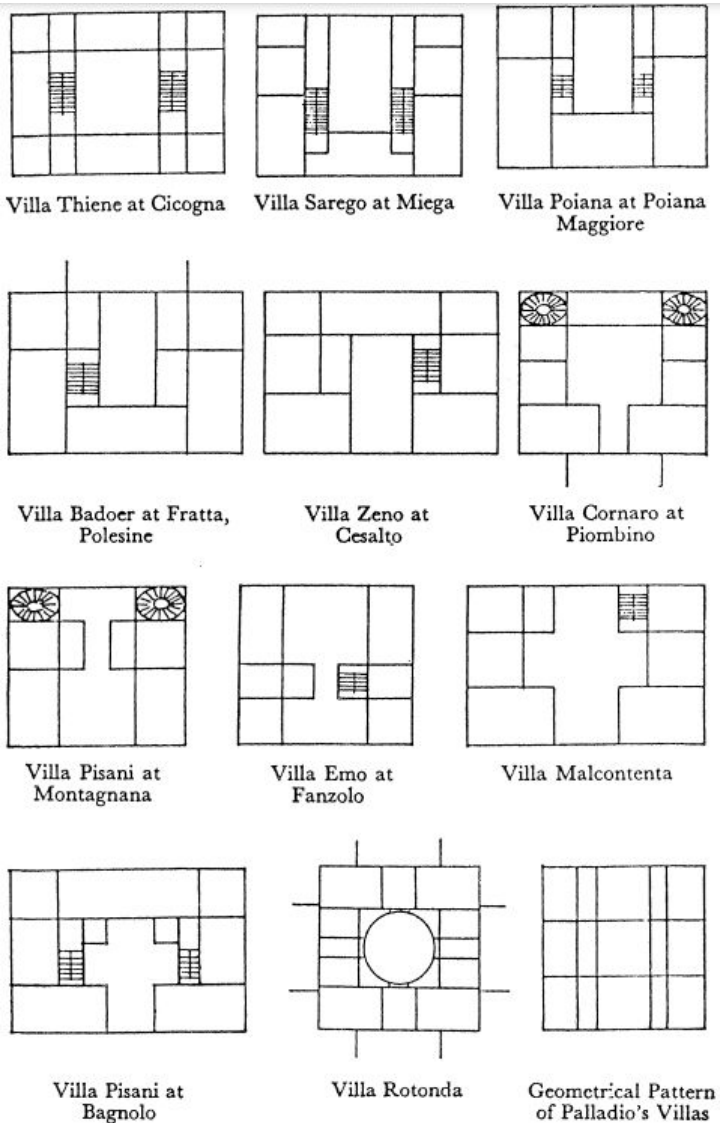


FIGURE 7. Rudolph Wittkower, Palladian Villa Types, in *Architectural Principles in the Age of Humanism* (London, 1952).

- The role of **diagrams** in **modernist architecture** - abstractions of spatial relations.
- These **diagrams guided the design process** by representing architectural concepts and forms.

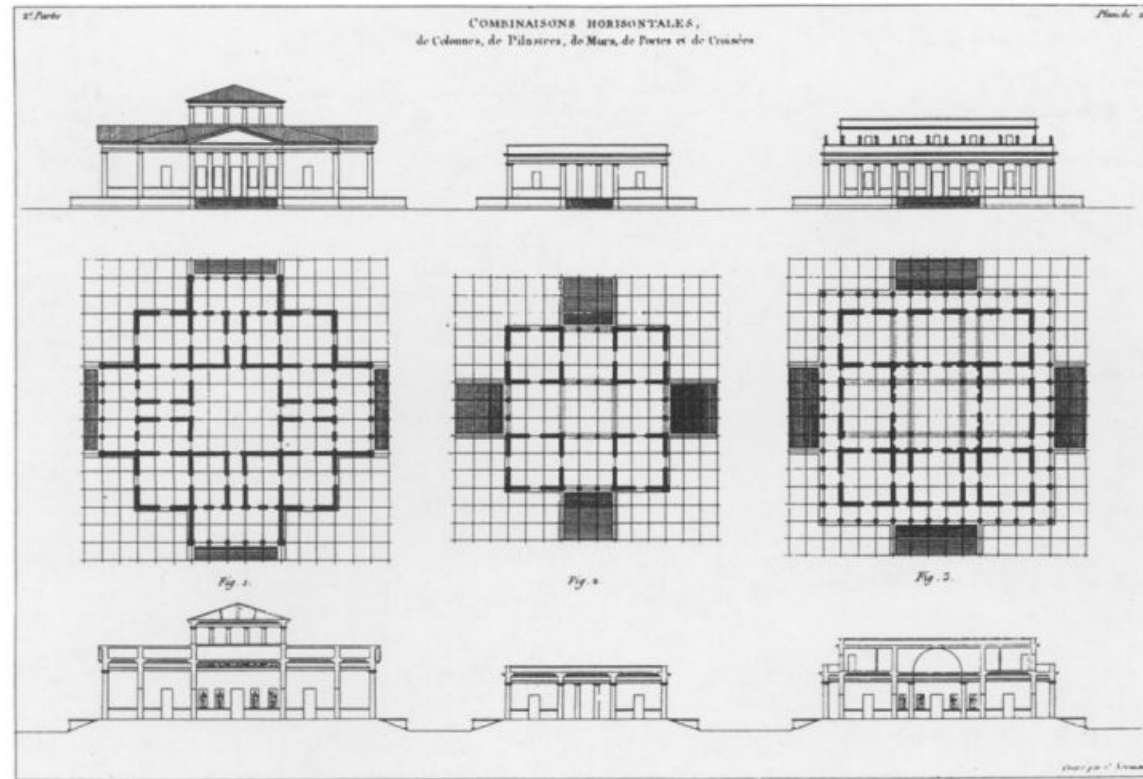
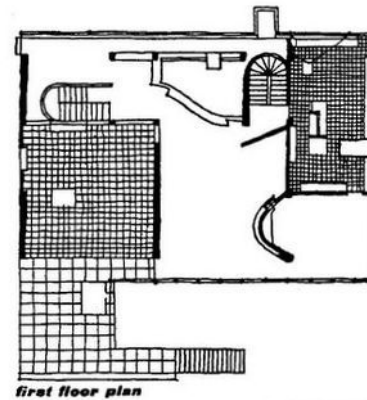
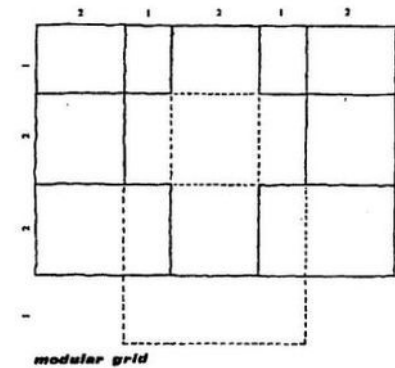
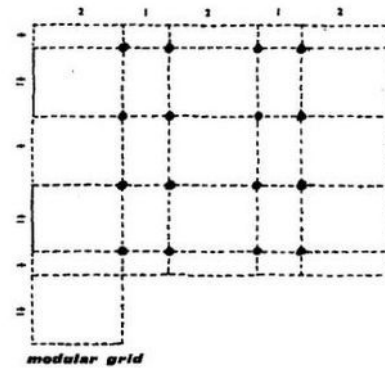


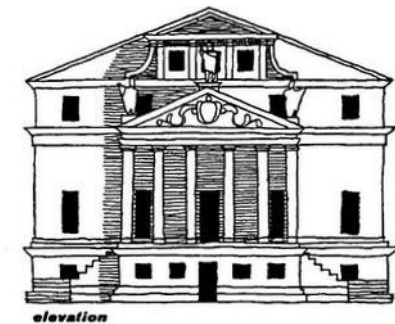
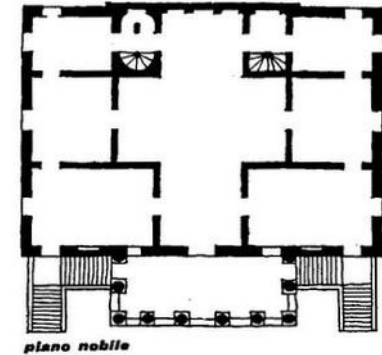
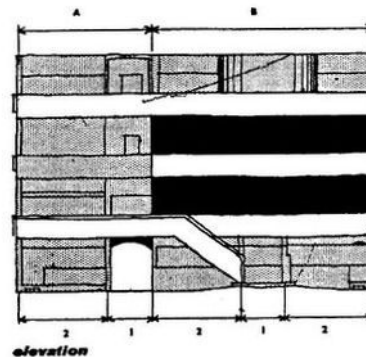
FIGURE 4. Durand, "Horizontal Combinations," 1: plate 2, part 2.

Anthony Vidler, Diagrams of Diagrams:

Colin Rowe, The mathematics of the Ideal Villa (1947)

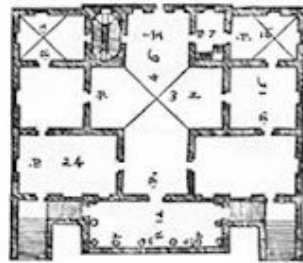
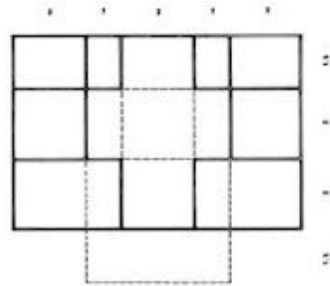


$$A : B = B : (A + B)$$



Anthony Vidler, Diagrams of Diagrams:

Colin Rowe, The mathematics of the Ideal Villa



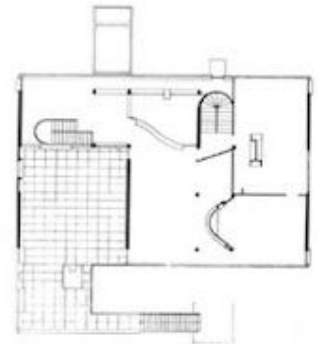
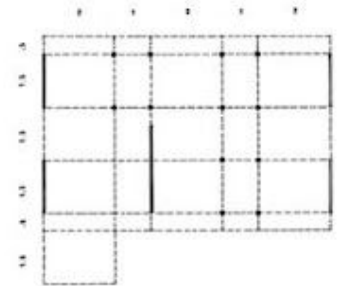
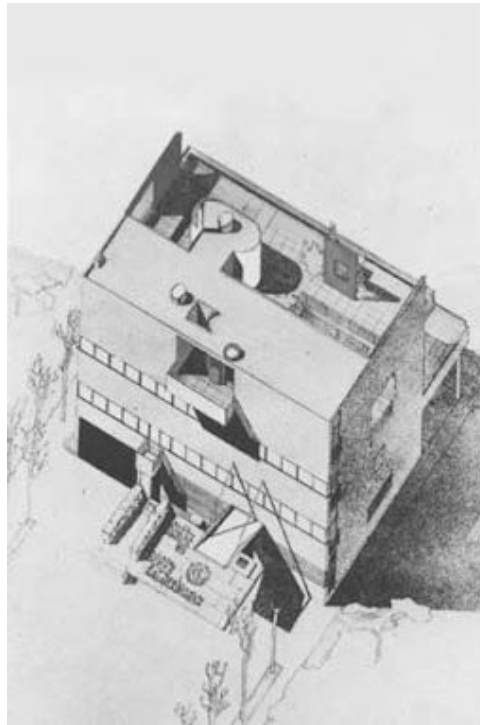
Classical principles:

Harmony

Proportion

Symmetry

- Idealized mathematical order



Modernist architecture:

Fragmentation

Asymmetrical Compositions

Abstraction

- Tension and contradiction

Anthony Vidler, Diagrams of Diagrams: Architectural Abstraction and Modern Representation

In the digital age: diagrams are no longer just abstract representations but are **instrumental** in the **generation** of **forms** through **computational processes**.

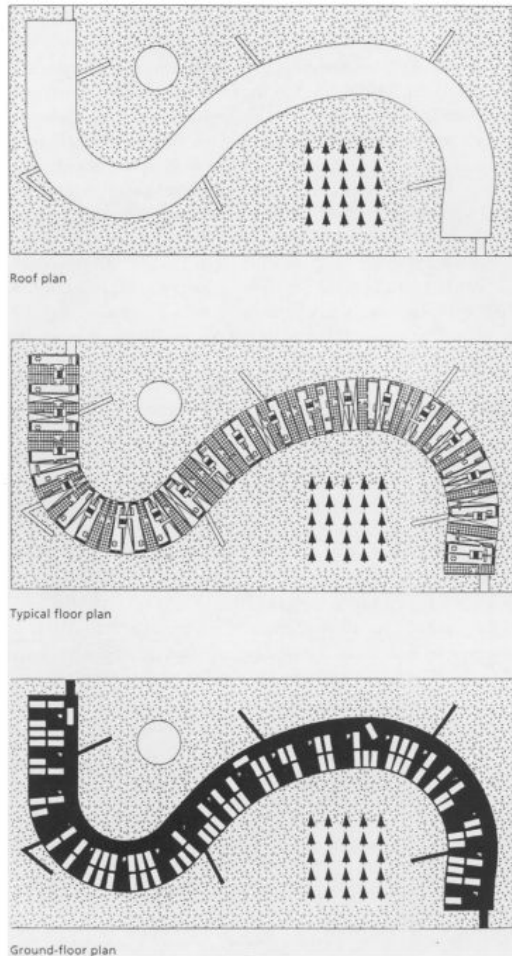
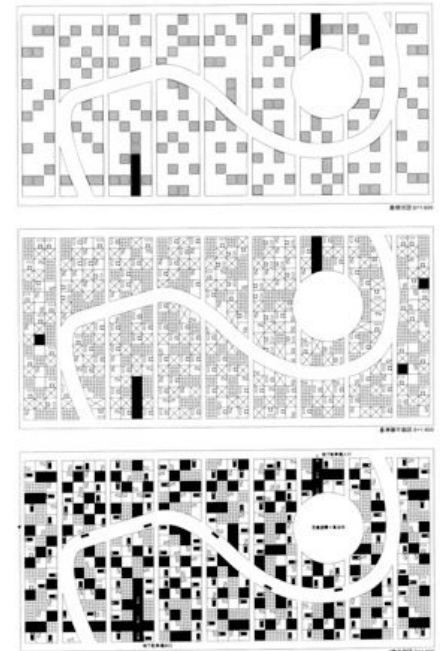


FIGURE 1. Kazuyo Sejima, Project for Middle Rise Housing Prototypes, 1995. Plans. *Assemblage* 30 (August 1996).



Kazuyo Sejima, Ryue Nishizawa (SANAA)



Anthony Vidler, Diagrams of Diagrams: Architectural Abstraction and Modern Representation

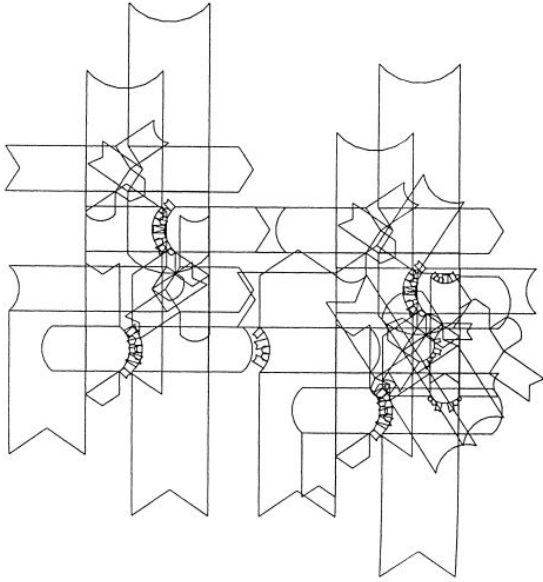
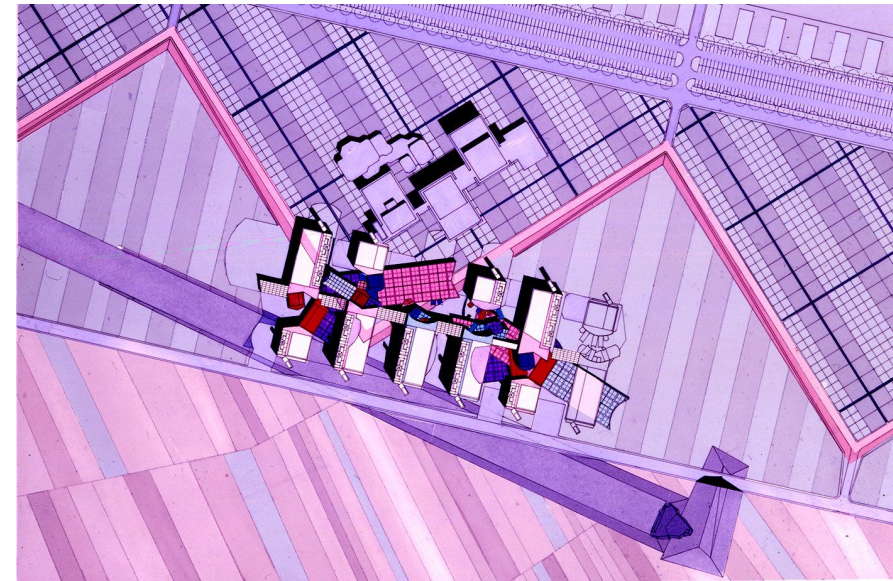
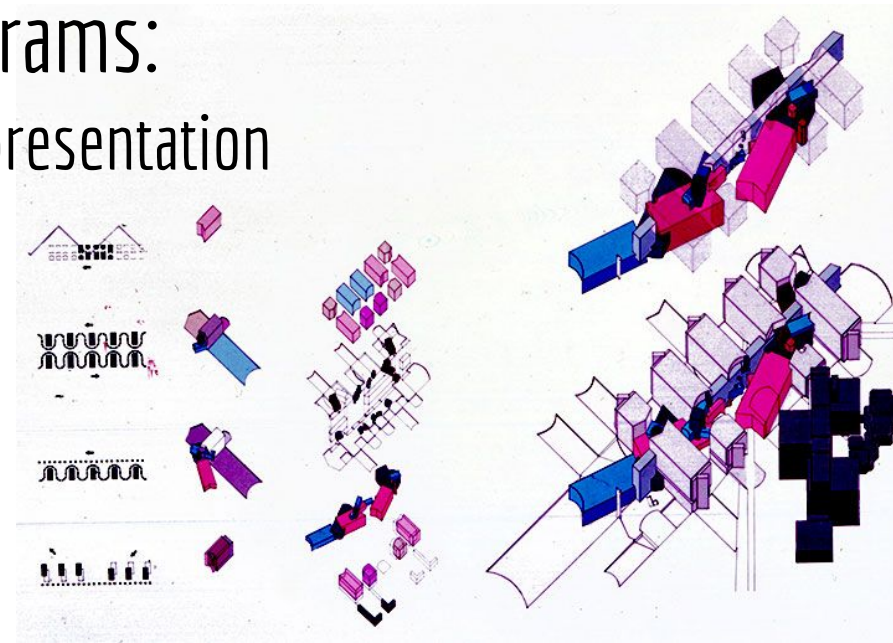
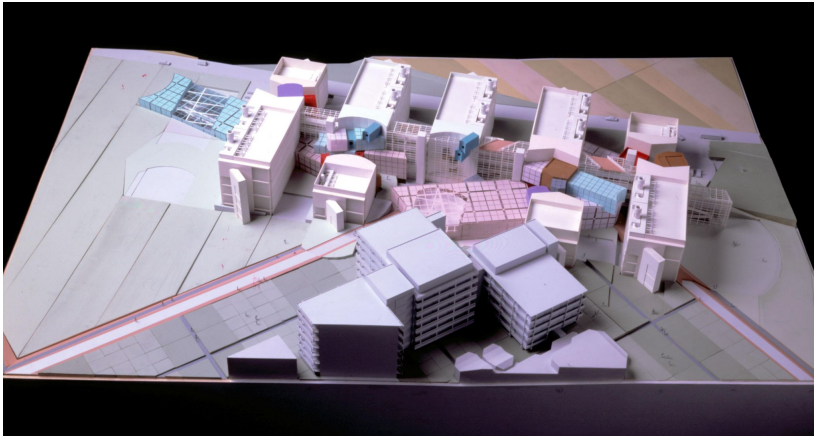


FIGURE 2. Peter Eisenman, Frankfurt Biocentrum, 1987, Diagram of Superpositions and Rotations, in *Diagram Diaries* (New York), 1999.



Anthony Vidler, Diagrams of Diagrams: Architectural Abstraction and Modern Representation

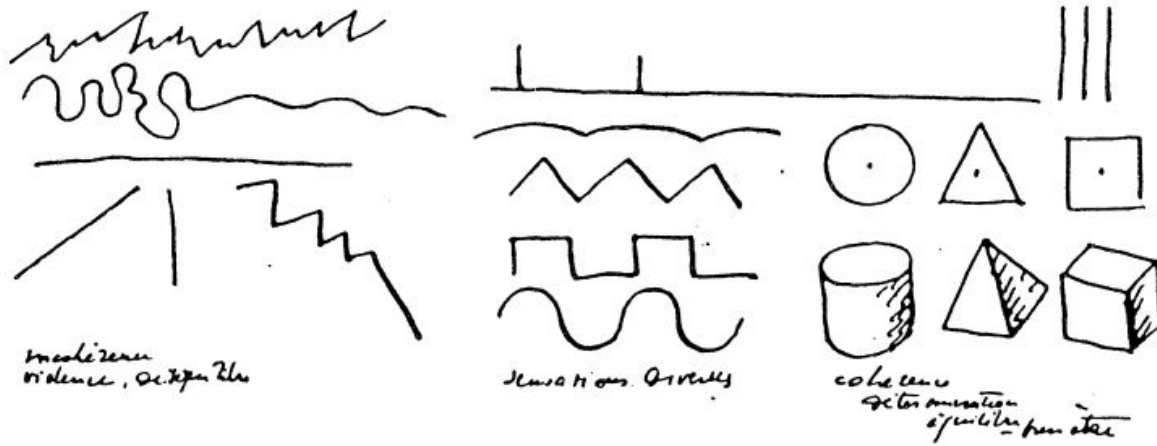


FIGURE 5. Le Corbusier, "Diagram of lines and forms as they affect the physiology of sensations," in *Almanach d'architecture moderne* (Paris, 1925), 35.

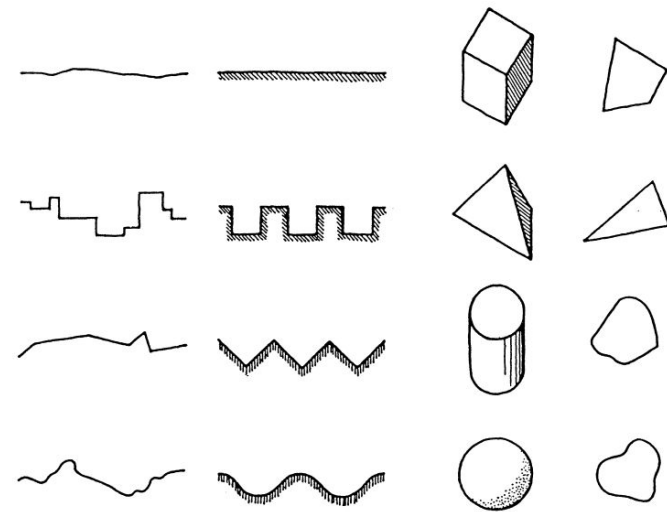



FIGURE 6. Albert Frey, "Shape," in *In Search of a Living Architecture* (New York, 1939).

The nature of abstraction in the digital era:

- Modernist abstract representations with the precision of digital diagrams.
- Vidler calls for a reevaluation of the role of abstract representation in architecture.
- Diagrams in architecture are more than illustrative; they are transformative devices that influence the way architects think, conceptualize and realize spatial ideas.

Models in Architecture



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MODEL BEHAVIOR

TUE, OCT 4, 2022 6:30PM - FRI, NOV 18, 2022 7PM

 ADD TO CALENDAR

MODEL BEHAVIOR



Models in Architecture



Architectural Model found in Gumelnita (now Bulgaria), 4600BC

Ancient civilisations created architectural models or maquettes, often not to investigate building techniques but rather to use as **gifts or place in tombs**.



Florence Cathedral Dome by Filippo Brunelleschi 15th century

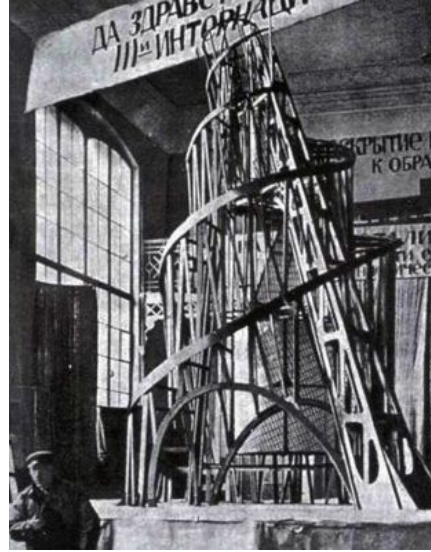
A physical model was the only way Filippo Brunelleschi could easily **guide his craftsmen** in the **construction** of the dome for Florence Cathedral - a model he **deliberately left incomplete** to ensure his control over the dome as it was built.

Models in Architecture



Catenary Arch Models by Antoni Gaudí, 19th-20th century

Gaudí's catenary arch models are a unique example of **evocative low-tech architectural problem solving**. His funicular chain and lead-shot bag experiments let **gravity determine the form** of a catenary arch — for Gaudí the ideal structural element — which could then be photographed and inverted to gain an **understanding of the forces at work**.

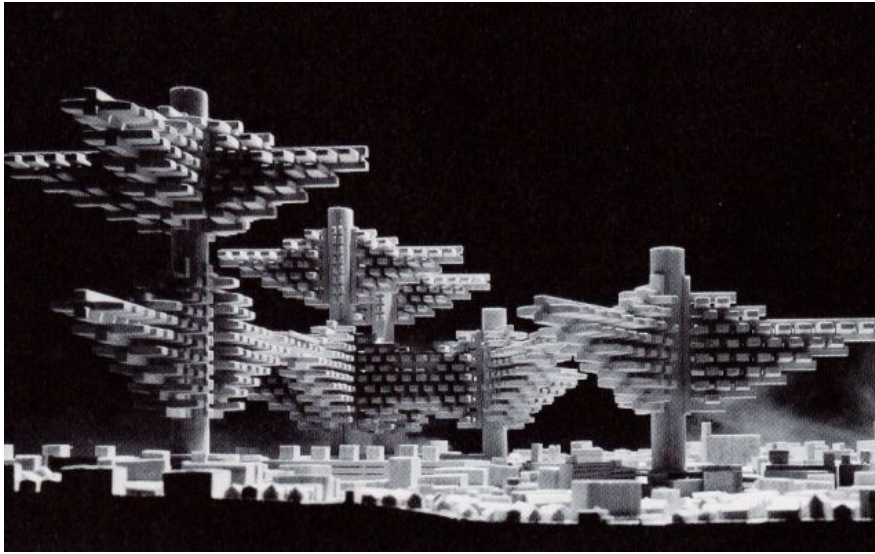


Tatlin's Tower, various, 1919-20

The Monument to the Third International - Tatlin's Tower, is one of the 20th century's most enduring unrealised projects. The tower was to be a **spiralling ode to modernity** and revolution built in iron, steel and glass that would **challenge the Eiffel Tower**. Wrapped in steel spiral were geometric structures, each one rotating at different speeds. Nonetheless, the models of Tatlin's Tower serve as a **reminder** of the **ambition** and **spirit** of the **age**.



Models in Architecture



Clusters in the Air by Arata Isozaki, 1960-62

The Japanese **Metabolist architect** Arata Isozaki developed his new housing structure for Tokyo in the 1960s. Like leaves on a tree, the **modular housing units** branch off from structural **'trunks'**. The ambitious and revolutionary ideas of the Metabolists, despite their exposure, remain largely **confined to theoretical works**, with drawings and models serving as the **only way of depicting such radical concepts**.



Architectural Sculptures by Santiago Calatrava, 2005

For Calatrava, architecture **combines all of the arts** into one, and his sculptures often incite the interesting debate over whether they can be called **'art' as opposed to 'architectural'** experiments. The minimal sculptures share much formal flare with his buildings, the above reminiscent of Malmö's Turning Torso and Calatrava's stacked cube theme.

OMA's Modeling Techniques



Home, House



Representation of a house is changing according to geographical position, culture, societies.

Home, House



Eundeok Park, Children's Drawings of Model Houses: A Developmental Study. *Visual Arts Research*, Vol. 23, No. 1 (Spring 1997), pp. 62-72 (11 pages):
<https://www.jstor.org/stable/20715896>

Image representing a typical child's drawing of a house

Home, House



The CASTLETON

No. 227 Not Cut or Fitted.

Honor Bilt

\$1,989⁰⁰

At the price quoted we will furnish all the material to build this eight-room house. Price does not include cement, brick or plaster.

First Floor Four nicely arranged rooms on this floor, well lighted, and with plenty of room for furniture.

Second Floor Four bedrooms, bathroom and linen closet on this floor.

Height of Ceilings The basement has concrete floor and is 7 feet from floor to joists. The first floor is 9 feet from floor to ceiling; second floor, 8 feet 6 inches from floor to ceiling.

We furnish our best "Quality Guaranteed" mill work, shown on pages 118 and 119. Interior doors are five-cross panel, with trim and flooring to match, all yellow pine, in beautiful grain and color.

Paint for three coats outside, your choice of color. Varnish and wood filler for interior finish. Chicago Design hardware, see page 120.

Built on a concrete block foundation, excavated under the entire house.

Our Guarantee Protects You—Order Your House From This Book. Price Includes Plans and Specifications.

For prices of Plumbing, Heating, Wiring, Electric Fixtures and Shades see page 115.

OPTIONS

Wood Siding on second story, \$70.00 extra.

Sheet Plaster and Plaster Finish to take the place of wood lath, \$195.00 extra. See page 114.

Oriental Asphalt Shingles, instead of wood shingles, \$22.00 extra.

Fire-Chief Shingle Roll Roofing, Red or Sea Green in color, instead of wood shingles, \$6.00 less. Floors, Trim, Doors, etc., for living room, dining room, hall, den and stairs, furnished in clear red oak for \$142.00 extra.

Clear Maple Flooring furnished for kitchen, pantry and bathroom, instead of yellow pine, no extra charge.

Storm Doors and Windows, \$88.00 extra.

Screen Doors and Windows, black wire, \$60.00 extra; galvanized wire, \$63.00 extra.

If Mantel is not wanted, \$53.00 less.

Should be built on a lot about 35 feet wide.

See Description of "Honor Bilt" Houses on Page 7.



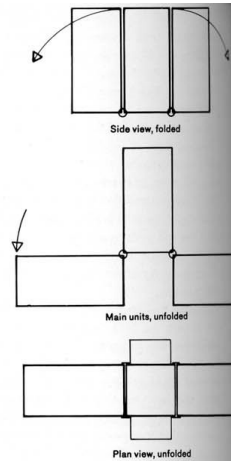
SECOND FLOOR PLAN.

Reyner Banham, "A Home is Not a House"

the informality and indifference to monumental architectural values, the passion for the outdoors—there always seemed to me to lurk some elusive master concept that would never quite come into focus. It finally came clear and legible to me in June 1964, in the most highly appropriate and symptomatic circumstances.

I was standing up to my chest-hair in water, making home movies (I get that NASA kick from taking expensive hardware into hostile environments) at the campus beach at Southern Illinois. This beach combines the outdoor and the clean in a highly American manner—scenically it is the ole swimmin' hole of Huckleberry Finn tradition, but it is properly policed (by sophomore lifeguards sitting on Eames chairs on poles in the water) and it's *chlorinated* too. From where I stood, I could see not only immensely elaborate family barbecues and picnics in progress on the sterilized sand, but also, through and above the trees, the basketry interlaces of one of Buckminster Fuller's experimental domes. And it hit me then, that if dirty old Nature could be kept under the proper degree of control (sex left in, streptococci taken out) by other means, the United States would be happy to dispense with architecture and buildings altogether.

Bucky Fuller, of course, is very big on this proposition: his famous non-rhetorical question, "Madam, do you know what your house weighs?" articulates a subversive suspicion of the monumental. This suspicion is inarticulately shared by the untold thousands of Americans who have already shed the deadweight of domestic architecture and live in mobile homes which, though they may never actually be moved, still deliver rather better performance as shelter than do ground-anchored structures costing at least three times as much and weighing ten times more. If someone could devise a package that would effectively disconnect the mobile home from the dangling wires of the town electricity supply, the bottled gas containers insecurely perched on a packing case and the semi-unsepeakable sanitary ar-



rangements that stem from not being connected to the main sewer—then we should really see some changes. It may not be so far away either; defense cutbacks may send aerospace spin-off spinning in some new directions quite soon, and that kind of miniaturization-talent applied to a genuinely self-contained and regenerative standard-of-living package that could be towed behind a trailer home or clipped to it, could produce a sort of U-haul unit that might be picked up or dropped off at depots across the face of the nation. Avis might still become the first in U-Tility, even if they have to go on being a trying second in car hire.

Out of this might come a domestic revolution beside which modern architecture would look like Kiddibrix, because you might be able to dispense with the trailer home as well. A standard-of-living package (the phrase and the concept are both Bucky Fuller's) that really worked might, like so many sophisticated inventions, return Man nearer to a natural state in spite of his complex culture (much as the supersession of the Morse telegraph by the Bell Telephone restored his power of speech nationwide). Man started with two basic ways of controlling environment: one by avoiding the issue and hiding under a rock, tree, tent or roof (this led ultimately to architecture as we know it) and the other by actually interfering with the local meteorology, usually by means of a campfire, which, in a more polished form, might lead to the kind of situation now under discussion. Unlike the living space trapped with our forebears under a rock or roof, the space around a campfire has many unique qualities which architecture cannot hope to equal, above all, its freedom and variability.

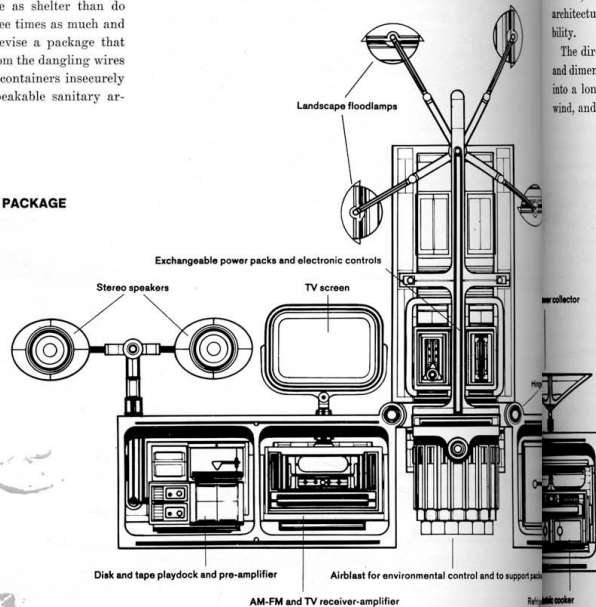
The direction and strength of the wind will decide the main shape and dimensions of that space, stretching the area of tolerable warmth into a long oval, but the output of light will not be affected by the wind, and the area of tolerable illumination will be a circle overlap-

ping the oval of warmth. There will thus be a variety of environmental choices balancing light against warmth according to need and interest. If you want to do close work, like shrinking a human head, you sit in one place, but if you want to sleep you curl up somewhere different; the floating knuckle-bones game would come to rest somewhere quite different to the environment that suited the meeting of the initiation-rites steering committee... and all this would be jim dandy if campfires were not so perishing inefficient, unreliable, smoky and the rest of it.

But a properly set-up standard-of-living package, breathing out warm air along the ground (instead of sucking in cold along the ground like a campfire), radiating soft light and Dionne Warwick in heart-warming stereo, with well-aged protein turning in an infra-red glow in the rotisserie, and the ice-maker discreetly coughing cubes into glasses on the swing-out bar—this could do something for a woodland glade or creek-side rock that Playboy could never do for its penthouse. But how are you going to manhandle this hunk of technology down to the creek? It doesn't have to be that massive; aerospace needs, for instance, have done wild things to solid-state technology, producing even tiny refrigerating transistors. They don't as yet mop up any great quantity of heat, but what are you going to do in this glade anyhow; put a whole steer in deep-freeze? Nor do you have to manhandle it—it could ride on a cushion of air (its own air-conditioning output, for instance) like a hovercraft or domestic vacuum cleaner.

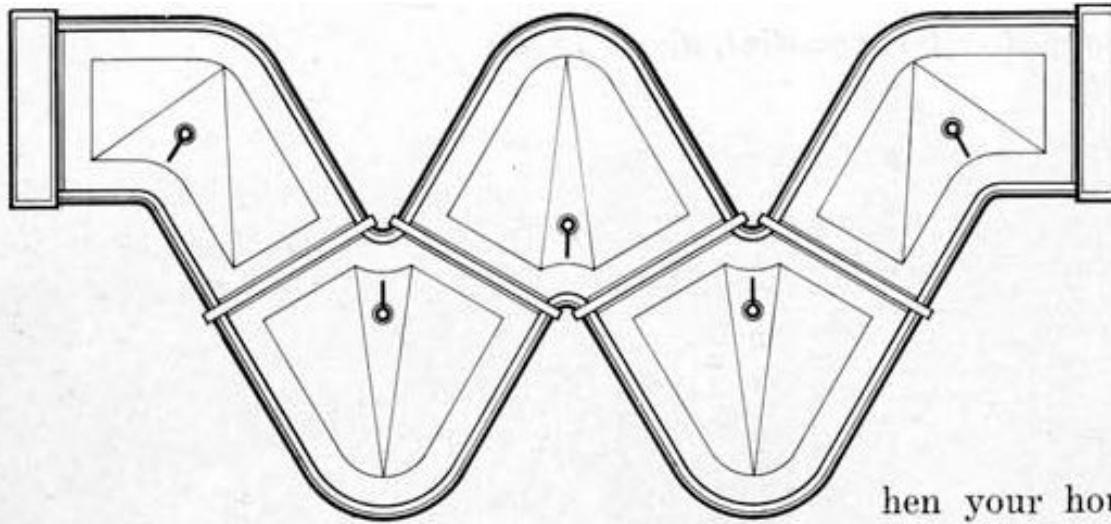
All this will eat up quite a lot of power, transistors notwithstanding. But one should remember that few Americans are ever far from a source of between 100 and 400 horsepower—the automobile. Beefed-up car batteries and a self-reeling cable drum could probably get this package breathing warm bourbon fumes 'er Eden long before microwave power transmission or miniaturized atomic power plants come

TRANSPORTABLE STANDARD-OF-LIVING PACKAGE



To the man who has everything else, a standard-of-living package such as this could offer the ultimate goody—the power to impose his will on any environment to which the package could be delivered; to enjoy the spatial freedom of the nomadic campfire without the smell, smoke, ashes and mess; and the luxuries of appliance-land without those encumbrances of a permanent dwelling.

Reyner Banham, "A Home is Not a House "



When your house contains such a complex of piping, flues, ducts, wires, lights, inlets, outlets, ovens, sinks, refuse disposers, hi-fi reverberators, antennae, conduits, freezers, heaters—when it contains so many services that the hardware could stand up by itself without any assistance from the house, why have a house to hold it up? When the cost of all this tackle is half of the total outlay (or more, as it often is) what is the house doing except concealing your mechanical pudenda from the stares of folks on the sidewalk? Once or twice recently there have been buildings where the public was genuinely confused about what was mechanical services, what was structure—many visitors to Philadelphia take quite a time to work out that the floors of Louis Kahn's laboratory towers are not supported by the flanking brick duct boxes, and when they have worked it out, they are inclined to wonder if it was worth all the trouble of giving them an independent supporting structure.

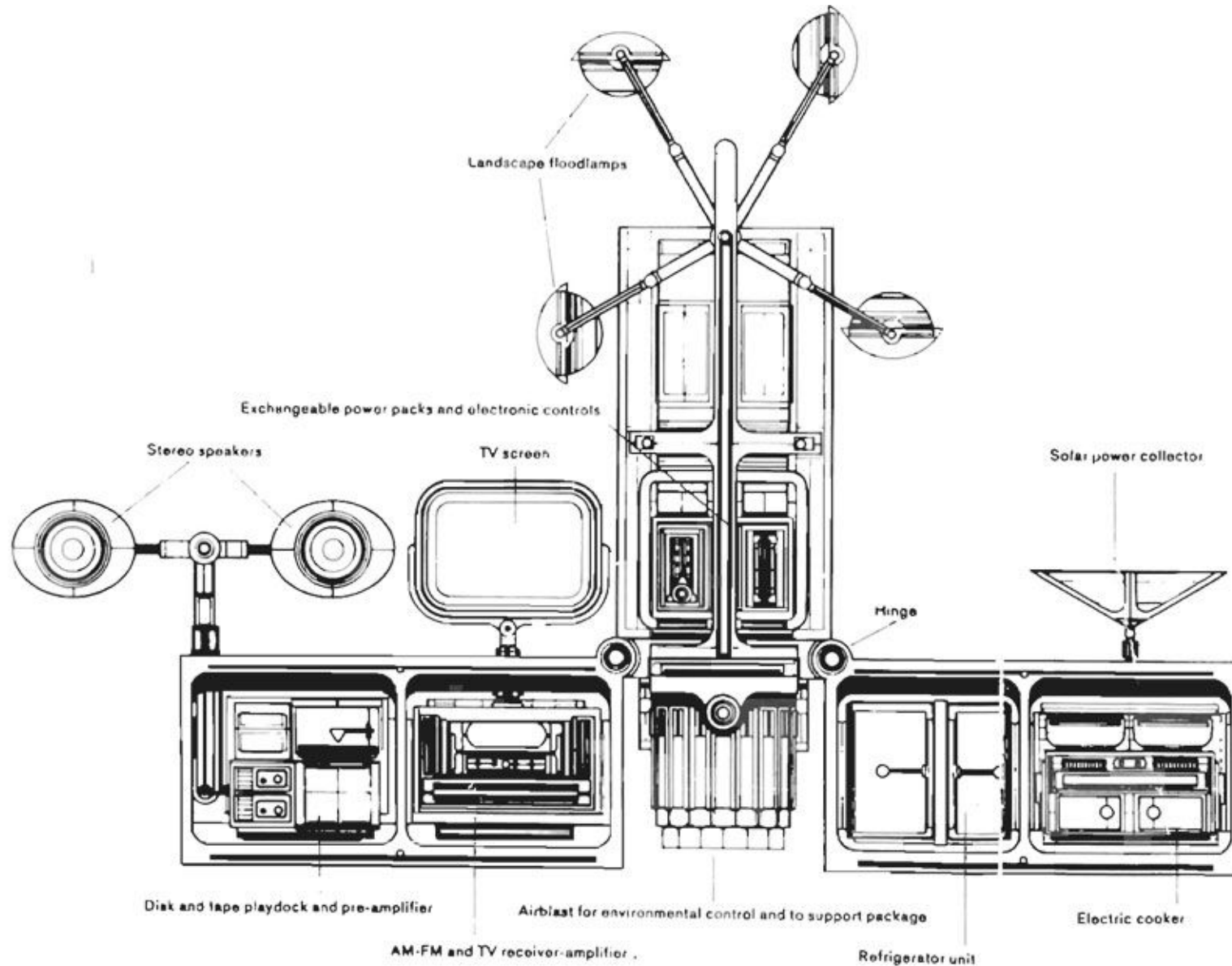
Reyner Banham, "A Home is Not a House "

Richards Medical Research Laboratories, Louis Kahn (1965)

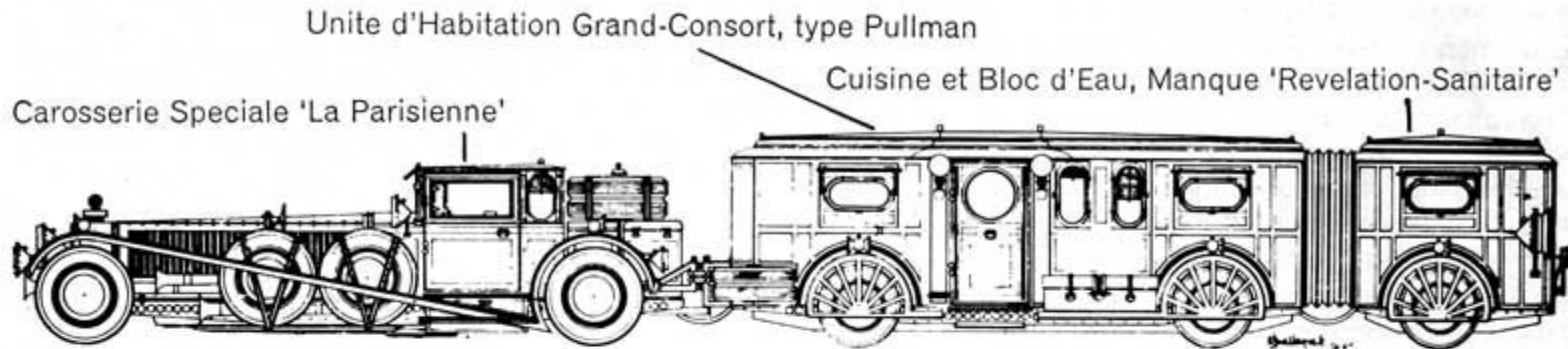


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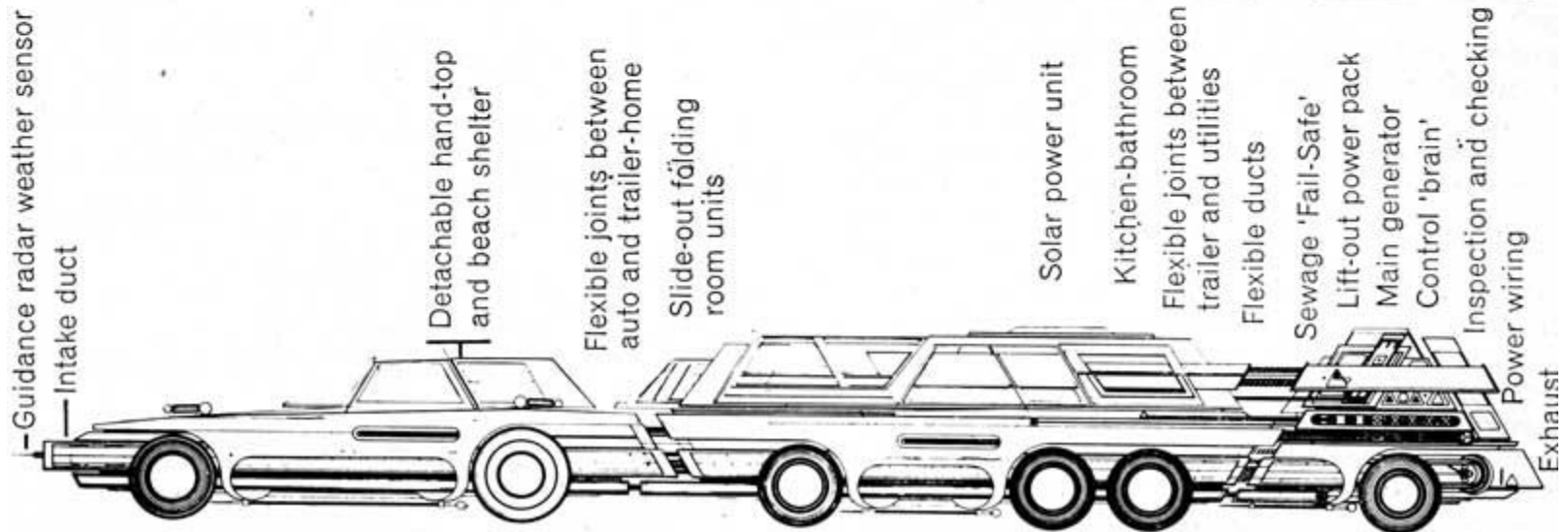
Reyner Banham, "A Home is Not a House "



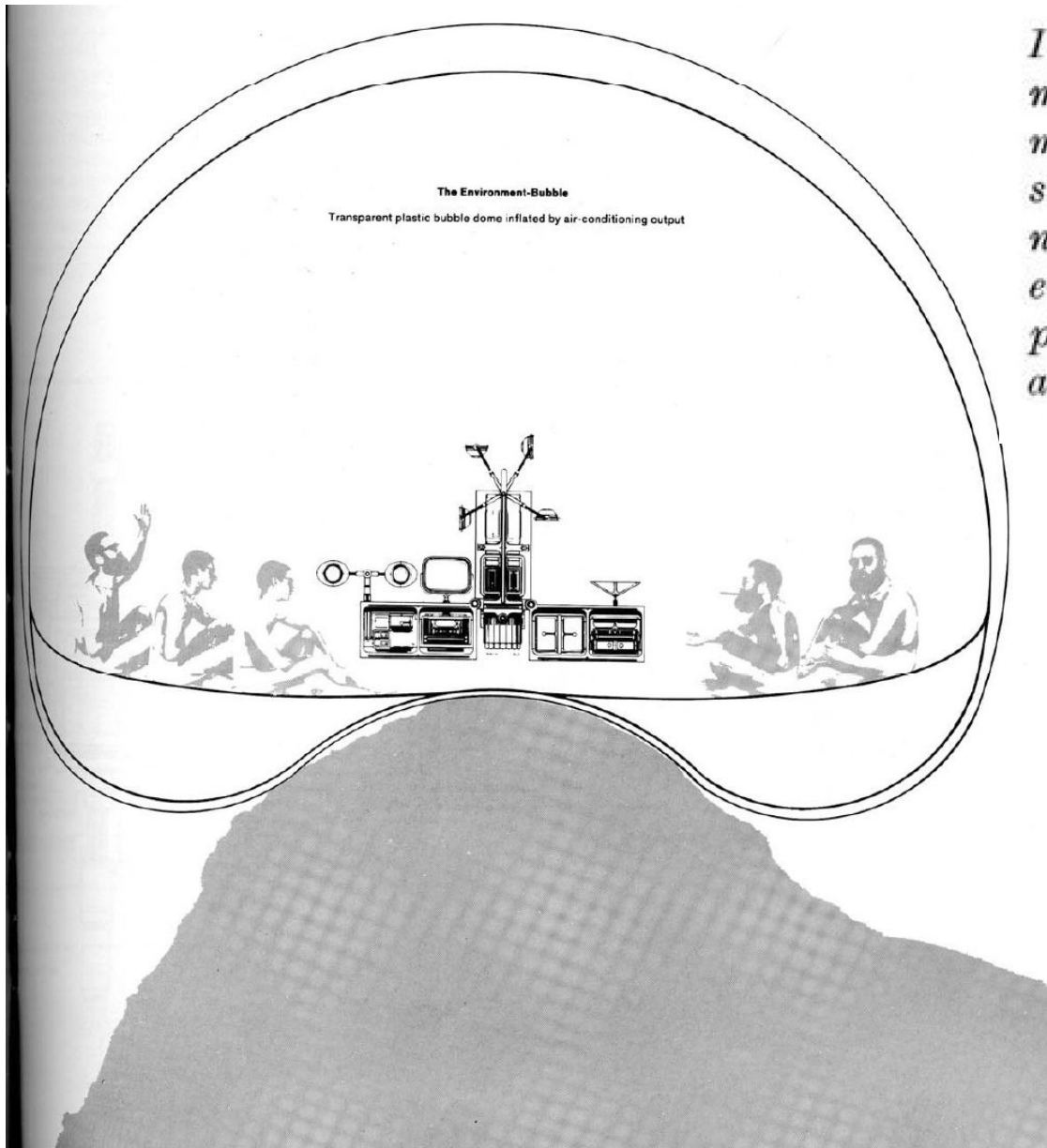
**Trailmaster GTO 2+2
with beefed rear and drive-train**

**Transcontinental
'Instant Split-Level' trailer home**

**U-Tility
Life-Support pack**



Reyner Banham, "A Home is Not a House "



In the present state of the environmental art, no mechanical device can make the rain go back to Spain; the standard-of-living package is apt to need some sort of an umbrella for emergencies, and it could well be a plastic dome inflated by conditioned air blown out by the package itself.

Critique of modernist architects for ignoring how people inhabit and use spaces.

Architecture responds to human needs, emotions and technological possibilities.

Encouraging architects to think beyond the traditional boundaries of architecture and embrace new forms of living enabled by technological innovation.

Vanna Venturi House, Robert Venturi, 1964



Rachel Whiteread's "House"



Rachel Whiteread's "House"



0:40, 3:17, 6:53, 9:40, 14:25, 18:00

<https://www.youtube.com/watch?v=ZVueGIKQTE8&t=414s>