

PLAN OF THE CITY OF CARLSRUHE

in segments in the program of 1949, the classification of architecture.

Any looks at the creation of architecture with his eyes, which are far a field from the ground. One can only consider about which the eye care of private and exterior, which take their account architectural elements. If the eyes are not able to look do not speak the language of architecture.

## ARCHITECTURE

transfers the training of the eyes to the brain, it is a question, if through a looking towards people.

II

## THE ILLUSION OF PLANS

~~The Plan proceeds from within to without; the exterior is the result of an interior.~~ The elements of architecture are light and shade, walls and space.

Arrangement is the gradation of aims, the classification of intentions.

Man looks at the creation of architecture with his eyes, which are 5 feet 6 inches from the ground. One can only consider aims which the eye can appreciate and intentions which take into account architectural elements. If there come into play intentions which do not speak the language of architecture, you arrive at the illusion of plans, you transgress the rules of the Plan through an error in conception, or through a leaning towards empty show.

You employ stone, wood and concrete, and with these materials you build houses and palaces. That is construction. Ingenuity is at work.

But suddenly you touch my heart, you do me good, I am happy and I say : "This is beautiful." That is Architecture. Art enters in.

My house is practical. I thank you, as I might thank Railway engineers, or the Telephone service. You have not touched my heart.

But suppose that walls rise towards heaven in such a way that I am moved. I perceive your intentions. Your mood has been gentle, brutal, charming or noble. The stones you have erected tell me so. You fix me to the place and my eyes regard it. They behold something which expresses a thought. A thought which reveals itself without word or sound, but solely by means of shapes which stand in a certain relationship to one another. These shapes are such that they are clearly revealed in light. The relationships between them have not necessarily any reference to what is practical or descriptive. They are a mathematical creation of your mind. They are the language of Architecture. By the use of inert materials and *starting from* conditions more or less utilitarian, you have established certain relationships which have aroused my emotions. This is Architecture.

TO make a plan is to determine and fix ideas.  
It is to have had ideas.

It is so to order these ideas that they become intelligible, capable of execution and communicable. It is essential therefore to exhibit a precise intention, and to have had ideas in order to be able to furnish oneself with an intention. A plan is to some extent a summary like an analytical contents table. In a form so condensed that it seems as clear as crystal and like a geometrical figure, it contains an enormous quantity of ideas and the impulse of an intention.

In a great public institution, the École des Beaux Arts, the principles of good planning have been studied, and then as time has gone by, dogmas have been established, and recipes and tricks. A method of teaching useful enough at the beginning has become a dangerous practice. To represent the inner

meaning certain hallowed external signs and aspects have been fixed. (The plan, which is really a cluster of ideas and of the intention essential to this cluster of ideas, has become a piece of paper on which black marks for walls and lines for axes play at a sort of mosaic on a decorative panel making graphic representations of star-patterns, creating an optical illusion. The most beautiful star becomes the Grand Prix de Rome.) Now, the plan is the generator, "the plan is the determination of everything; it is an austere abstraction, an algebrization, and cold of aspect." It is a plan of battle. The battle follows and that is the great moment. The battle is composed of the impact of masses in space and the *morale* of the army is the cluster of predetermined ideas and the driving purpose. Without a good plan nothing exists, all is frail and cannot endure, all is poor even under the clutter of the richest decoration.

From the very start the plan implies the methods of construction to be used; the architect is above all an engineer. But let us keep strictly to architecture, this thing which endures through the ages. Placing myself entirely at this one angle of vision I commence by drawing attention to this vital fact: a plan proceeds from within to without, for a house or a palace is an organism comparable to a living being. I shall speak of the architectural elements of the interior. I shall pass on to arrangement. In considering the effect of buildings in relation to a site, I shall show that here too the exterior is always an interior. By means of various fundamental elements which will be clearly shown in diagrams, I can demonstrate the illusion of plans, this illusion which kills architecture,

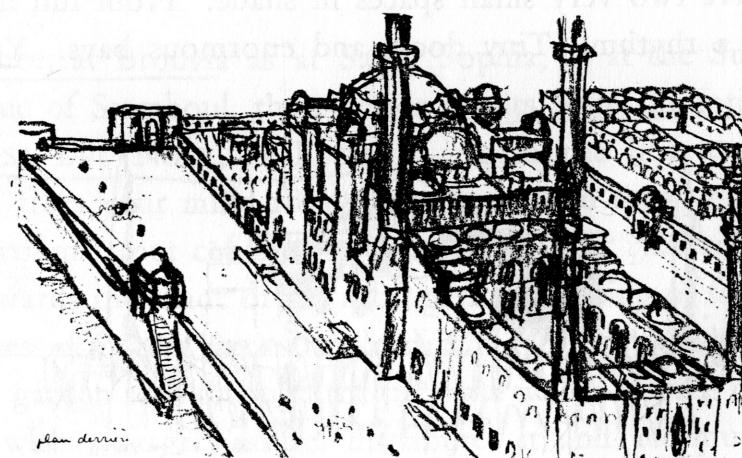
ensnares the mind and creates architectural trickery; this is the fruit of violating undeniable truths, the result of false conceptions or the fruit of vanity.

无价值的东西

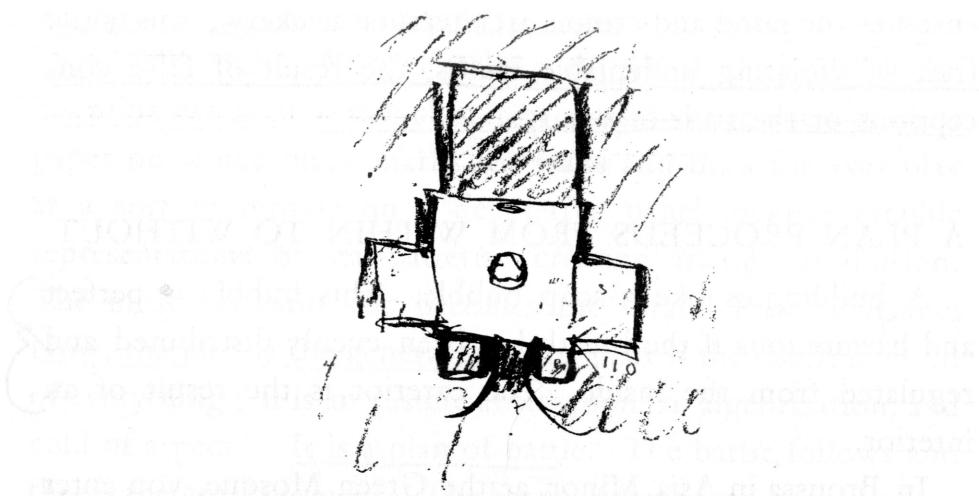
#### A PLAN PROCEEDS FROM WITHIN TO WITHOUT

A building is like a soap bubble. This bubble is perfect and harmonious if the breath has been evenly distributed and regulated from the inside. The exterior is the result of an interior.

In Broussa in Asia Minor, at the Green Mosque, you enter by a little doorway of normal human height; a quite small vestibule produces in you the necessary change of scale so that you may appreciate, as against the dimensions of the street and the spot you come from, the dimensions with which it is intended to impress you. Then you can feel the noble size of the Mosque and your eyes can take its measure. You are in a

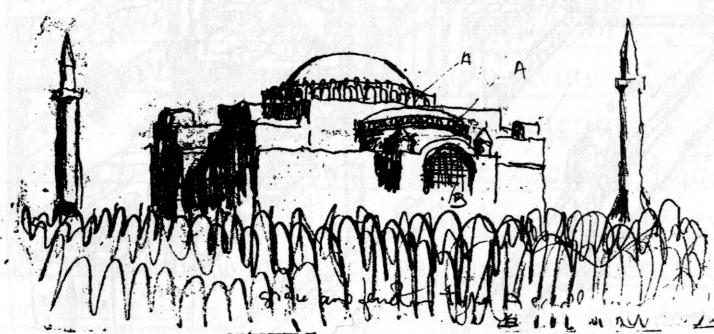


THE SOLEIMAN MOSQUE, STAMBOUL



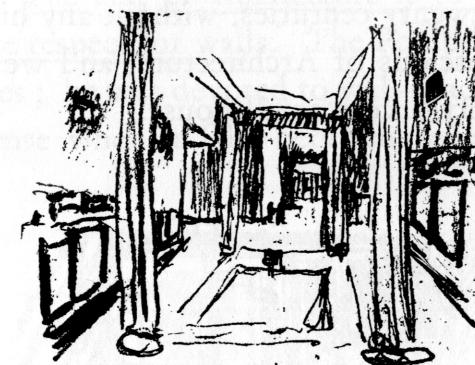
PLAN OF THE GREEN MOSQUE, BROUSSA

great white marble space filled with light. Beyond you can see a second similar space of the same dimensions, but in half-light and raised on several steps (repetition in a minor key); on each side a still smaller space in subdued light; turning round, you have two very small spaces in shade. From full light to shade, a rhythm. Tiny doors and enormous bays. You are



SANTA SOPHIA, CONSTANTINOPLE

captured, you have lost the sense of the common scale. (You are enthralled by a sensorial rhythm (light and volume) and by an able use of scale and measure, into a world of its own which tells you what it set out to tell you.) What emotion, what faith! There you have motive and intention. The cluster of ideas, this is the means that has been used. In con-

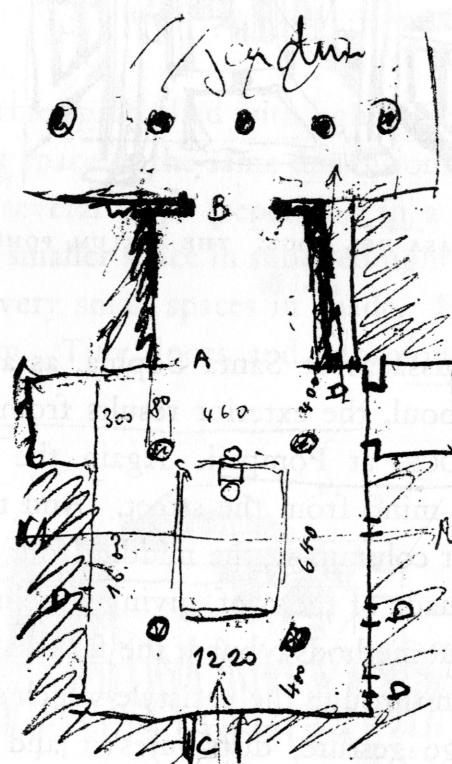


THE CASA DEL NOCE. THE ATRIUM, POMPEII

sequence, at Broussa as at Santa Sophia, as at the Suleiman Mosque of Stamboul, the exterior results from the interior.

CASA DEL NOCE, at Pompeii. Again the little vestibule which frees your mind from the street. And then you are in the Atrium ; four columns in the middle (four cylinders) shoot up towards the shade of the roof, giving a feeling of force and a witness of potent methods ; but at the far end is the brilliance of the garden seen through the peristyle which spreads out this light with a large gesture, distributes it and accentuates it, stretching widely from left to right, making a great space.

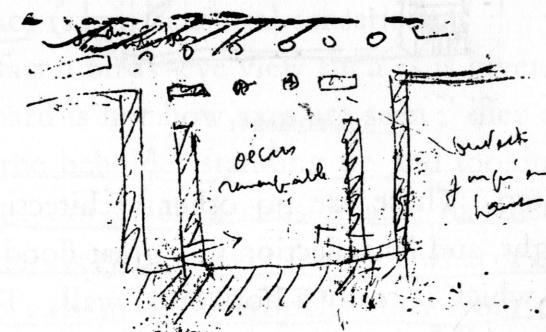
Between the two is the Tablum, contracting this vision like the lens of a camera. On the right and on the left two patches of shade—little ones. Out of the clatter of the swarming street which is for every man and full of picturesque incident, you have entered the house of *a Roman*. Magistral grandeur, order, a splendid amplitude : you are in the house of *a Roman*. What was the function of these rooms ? That is outside the question. After twenty centuries, without any historical reference, you are conscious of Architecture, and we are speaking of what is in reality a very small house.



THE CASA DEL NOCE

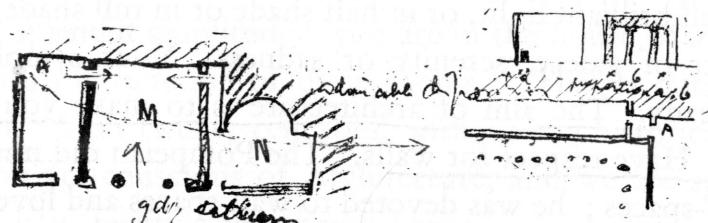
### ARCHITECTURAL ELEMENTS OF THE INTERIOR

Our elements are vertical walls, the spread of the soil, holes to serve as passages for man or for light, doors or windows. The holes give much or little light, make gay or sad. The walls are in full brilliant light, or in half shade or in full shade, giving an effect of gaiety, serenity or sadness. Your symphony is made ready. The aim of architecture is to make you gay or serene. Have respect for walls. The Pompeian did not cut up his wall-spaces ; he was devoted to wall-spaces and loved light. Light is intense when it falls between walls which reflect it.



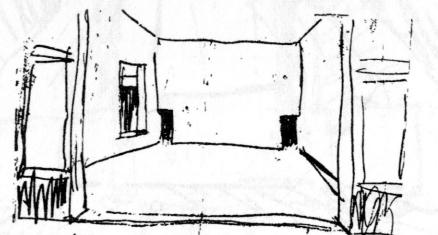
HADRIAN'S VILLA, ROME

The ancients built walls, walls which stretch out and meet to amplify the wall. In this way they created volumes, which are the basis of architectural and sensorial feeling. The light bursts on you, by a definite intention, at one end and illuminates the



HADRIAN'S VILLA, ROME

walls. The *impression* of light is extended outside by cylinders (I hardly like to say columns, it is a worn-out word), peristyles or pillars. The floor stretches everywhere it can, uniformly and without irregularity. Sometimes, to help the effect, the floor is



POMPEII

raised by a step. There are no other architectural elements internally : light, and its reflection in a great flood by the walls and the floor, which is really a horizontal wall. To erect well-lit walls is to establish the architectural elements of the interior. There remains to achieve Proportion.

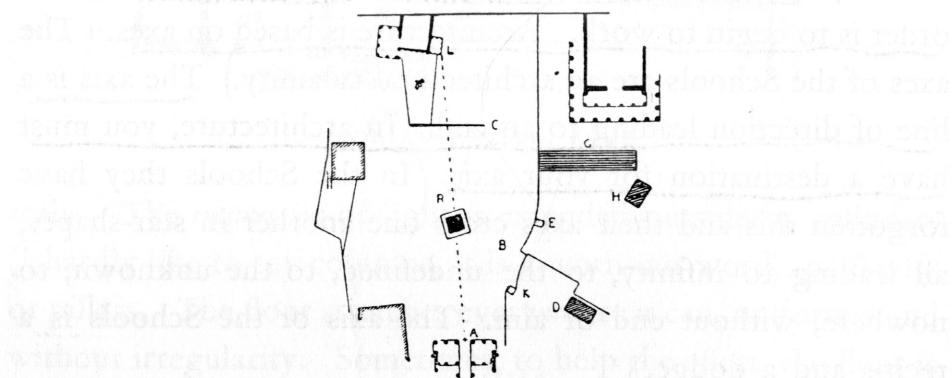
### ARRANGEMENT

An axis is perhaps the first human manifestation ; it is the means of every human act. (The toddling child moves along an axis, the man striving in the tempest of life traces for himself an axis.) The axis is the regulator of architecture. To establish order is to begin to work. Architecture is based on axes. (The axes of the Schools are an architectural calamity.) The axis is a line of direction leading to an end. In architecture, you must have a destination for your axis. (In the Schools they have forgotten this and their axes cross one another in star-shapes, all leading to infinity, to the undefined, to the unknown, to nowhere, without end or aim. The axis of the Schools is a recipe and a dodge.)

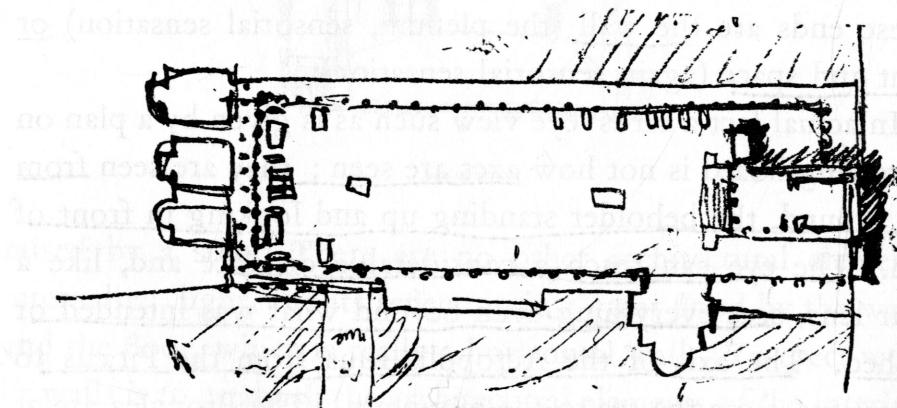
Arrangement is the grading of axes, and so it is the grading of aims, the classification of intentions.

The architect therefore assigns destinations to his axes. These ends are the wall (the plenum, sensorial sensation) or light and space (again sensorial sensation).

In actual fact a birds'-eye view such as is given by a plan on a drawing-board is not how axes are seen ; they are seen from the ground, the beholder standing up and looking in front of him. The eye can reach a considerable distance and, like a clear lens, sees everything even beyond what was intended or wished. The axis of the Acropolis runs from the Piræus to Pentelicus, from the sea to the mountain. The Propylea are at right angles to the axis, in the distance on the horizon—the sea.



THE ACROPOLIS, ATHENS



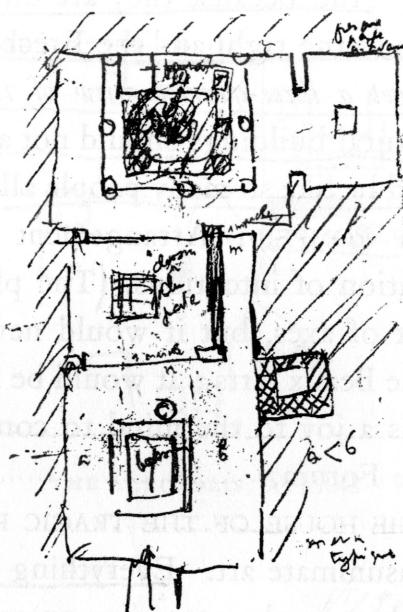
THE FORUM, POMPEII

In the horizontal, at right angles to the direction that the architectural arrangement has impressed on you from where you stand, it is the rectangular impression which tells. This is architecture of a high order: the Acropolis extends its effect right to the horizon. The Propylea in the other direction, the colossal statue of Athena on the axis, and Pentelicus in the distance. That is what tells. And because they are outside this forceful axis, the Parthenon to the right and the Erechtheum to the left, you are enabled to get a three-quarter view of them, in their full aspects. Architectural buildings should not all be placed upon axes, for this would be like so many people all talking at once.

THE FORUM OF POMPEII: Arrangement is the grading of aims, the classification of intentions. (The plan of the Forum contains a number of axes, but it would never obtain even a bronze medal at the Beaux Arts; it would be refused, it doesn't make a star!) It is a joy to the mind to consider such a plan and to walk in the Forum.

And here IN THE HOUSE OF THE TRAGIC POET we have the subtleties of a consummate art. Everything is on an axis, but it would be difficult to apply a true line anywhere. The axis is in the intention, and the display afforded by the axis extends to the humbler things which it treats most skilfully (the corridors, the main passage, etc.) by optical illusions. The axis here is not an arid thing of theory; it links together the main volumes which are clearly stated and differentiated one from another. When you visit the House of the Tragic Poet, it is clear that everything is ordered. But the feeling it gives is a rich one. You then note clever distortions of the axis which give inten-

sity to the volumes : the central motive of the pavement is set behind the middle of the room ; the well at the entrance is at the side of the basin. The fountain at the far end is in the angle of the garden. An object placed in the centre of a room often spoils the room, for it hinders you from standing in the



HOUSE OF THE TRAGIC POET, POMPEII

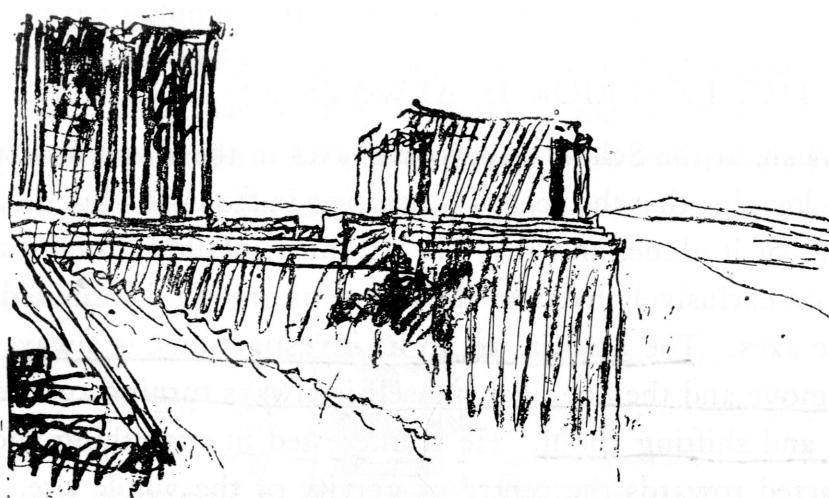
middle of the room and getting the axial view ; a monument placed in the middle of a square often spoils the square and the buildings which surround it—often but not always ; in this matter each case must be judged on its merits.

(Arrangement is the grading of axes, and so it is the grading of aims, the classification of intentions.)

### THE EXTERIOR IS ALWAYS AN INTERIOR

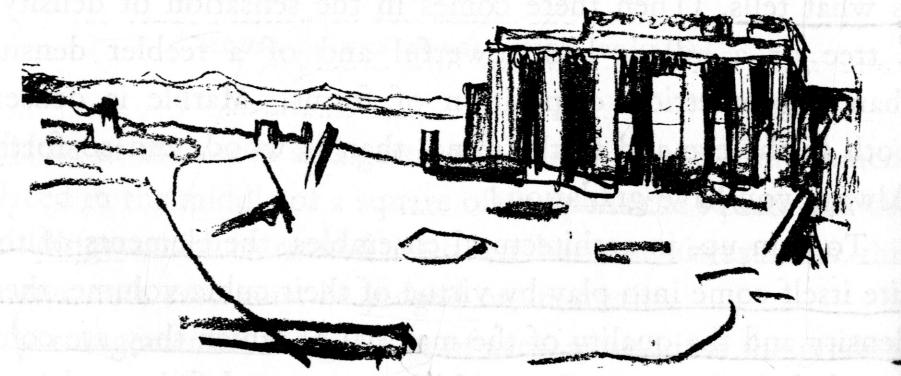
When, at the Schools, they draw axes in the shape of a star, they imagine that the spectator arriving in front of a building is aware of it alone, and that his eye must infallibly follow and remain exclusively fixed on the centre of gravity determined by these axes. The human eye, in its investigations, is always on the move and the beholder himself is always turning right and left, and shifting about. He is interested in everything and is attracted towards the centre of gravity of the whole site. At once the problem spreads to the surroundings. The houses near by, the distant or neighbouring mountains, the horizon low or high, make formidable masses which exercise the force of their cubic volume. This cubic volume, as it appears and as it really is, is instantly gauged and anticipated by the intelligence. This sensation of cubic volume is immediate and fundamental ; your building may cube 100,000 cubic yards, but what lies around it may cube millions of cubic yards, and that is what tells. (Then there comes in the sensation of density : a tree or a hill is less powerful and of a feebler density than a geometrical disposition of forms. Marble is denser, both to the eye and to the mind, than is wood, and so forth. Always you have gradation.)

To sum up, in architectural ensembles, the elements of the site itself come into play by virtue of their cubic volume, their density and the quality of the material of which they are composed, bringing sensations which are very definite and very



THE PROPYLEA AND THE TEMPLE OF THE WINGLESS VICTORY

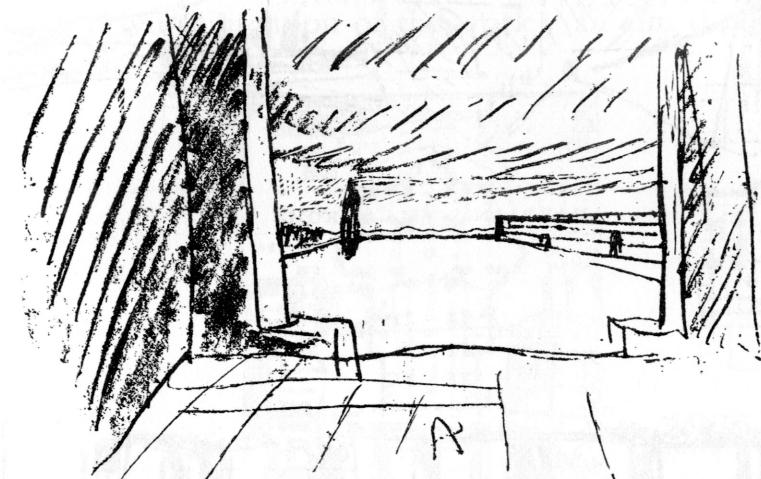
varied (wood, marble, a tree, grass, blue horizons, near or distant sea, sky). The elements of the site rise up like walls panoplied in the power of their cubic co-efficient, stratification, material, etc., like the walls of a room. Walls in



THE PROPYLEA

relation to light, light and shade, sadness, gaiety or serenity, etc. Our compositions must be formed of these elements.

(On the ACROPOLIS AT ATHENS the temples are turned towards one another, making an enclosure, as it were, which the eye readily embraces); and the sea which composes with the architraves, etc. This is to compose with the infinite resources

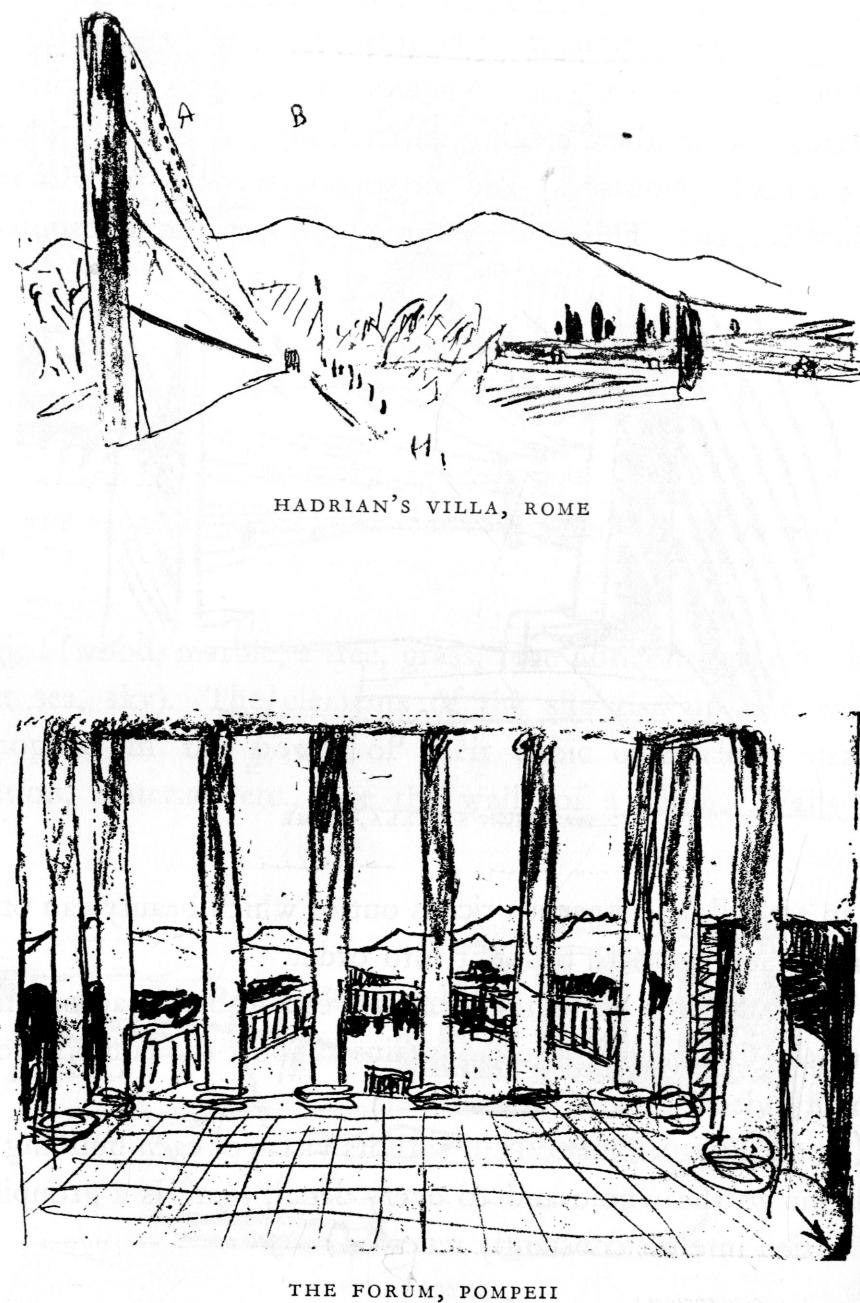


HADRIAN'S VILLA, ROME

of an art full of dangerous riches out of which beauty can only come when they are brought into order.

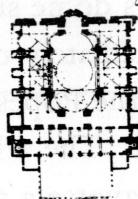
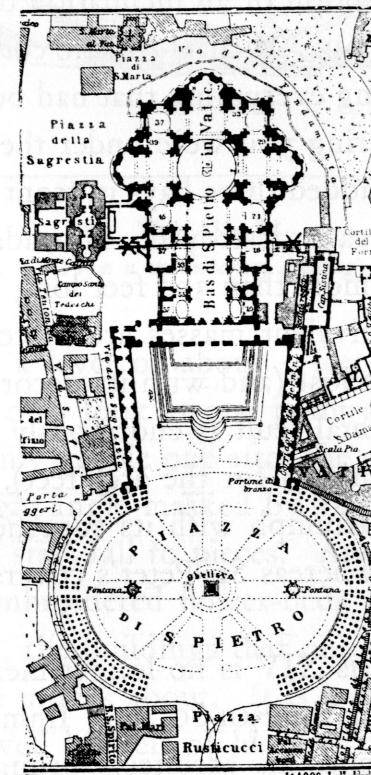
(At HADRIAN'S VILLA the levels are established in accordance with the Campagna; the mountains support the composition, which indeed is based upon them.)

(In the FORUM OF POMPEII, with its vistas of each building in relation to the whole and to every detail, there is a grouping of varied interest constantly renewed.)



### TRANSGRESSION

In the examples I shall now give, the architect has not taken into account that a plan proceeds from within to without, and has not formed his composition out of volumes quickened by a single well-ordered impulse, in conformity with an aim which was the driving intention of the work ; an aim that everyone



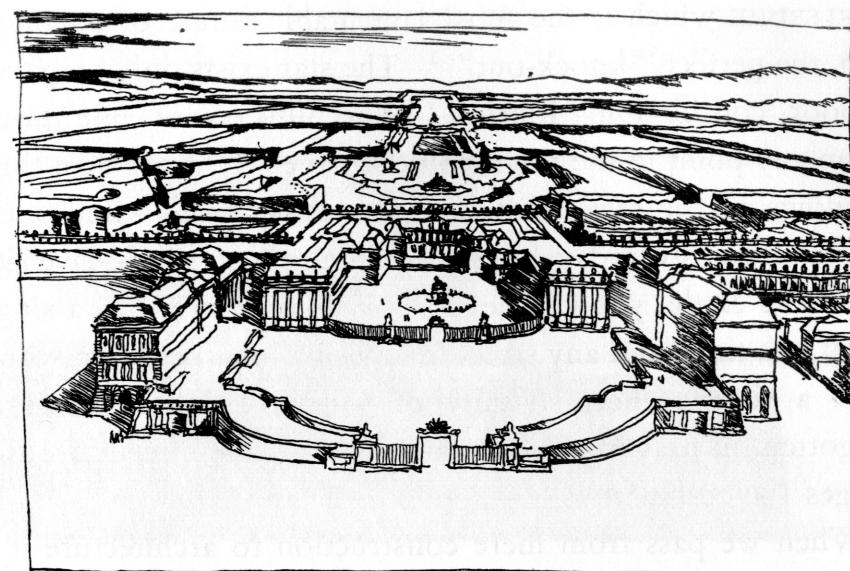
SANTA SOPHIA,  
CONSTANTINOPLE

*The line drawn across the third bay of the Nave shows the place where Michael Angelo intended his façade to come (see Michael Angelo's original scheme in the preceding chapter).*

could afterwards see for himself with his own eyes. The architect has not taken into account the architectural elements of the interior, that is to say surfaces which are linked together in order to receive light and make manifest the content of the building. He has not thought in terms of space, but has made stars on paper and drawn axes to form these stars. He has dealt with intentions which do not belong to the language of architecture. He has transgressed the rules of proper planning by an error of conception or an inclination towards vanities.

**ST. PETER'S AT ROME :** Michael Angelo constructed the enormous dome surpassing everything that had been seen till then ; immediately on entering you were under the immense cupola. But the Popes have added three bays in front and a great vestibule. The whole idea is destroyed. Nowadays it is necessary to traverse a tunnel more than 300 feet long before arriving at the dome ; two equivalent masses are in conflict ; the effect of the architecture is lost (and with its decoration, conceitedly coarse, the fundamental fault is enormously increased and St. Peter's remains an enigma for the architect). Santa Sophia at Constantinople is a triumph with its superficial area of about 7,500 square yards, whereas St. Peter's covers an area of more than 16,000.

**VERSAILLES :** Louis XIV is no longer merely the successor of Louis XIII. He is the ROI-SOLEIL. Immense vanity ! At the foot of the throne, his architects brought to him plans drawn from a bird's-eye view which seem like a chart of stars ; immense axes, formed like stars. The Roi-Soleil swells with pride ; and gigantic works are carried out. But a man has



VERSAILLES

(From a contemporary drawing)

only two eyes at a level of about 5 feet 6 inches above the ground, and can only look at one point at a time. The arms of the stars are only visible one after the other, and what you have is really a right angle masked by foliation. A right angle is not a star ; the stars fall to pieces. And so it goes on : the great basin, the embroidered flower-beds which are outside the general panorama, the buildings that one can only see in fragments and as one moves about. It is a snare and a delusion. Louis XIV deceived himself of his own free will. He transgressed the truths of architecture because he did not work with the objective elements of architecture.

And a little grand-ducal princeling, a courtier, like so many others, of the glory of the Roi-Soleil, planned the town of

CARLSRUHE which is the most lamentable failure of an intention, the perfect "knock-out."<sup>1</sup> The star exists only on paper, a poor consolation. Illusion! The illusion of fine plans. From any point in the town you can never see more than three windows of the castle and they always seem the same ones; the humblest everyday house would produce as much effect. From the castle, you can never look down more than a single street at a time, and any street in any small market town would have a similar effect. Vanity of vanities! It must not be forgotten, in drawing out a plan, that it is the human eye that judges the result.<sup>2</sup>

When we pass from mere construction to architecture it is because we are indulging a high aim. Vanity must be avoided. Vanity is the cause of architectural vanities.

<sup>1</sup> I apologize for the retention here of the original French.—F. E.

<sup>2</sup> See the Plan of Carlsruhe at the head of this Section.



THE PARTHENON

## ARCHITECTURE

### III

## PURE CREATION OF THE MIND