8 / A SECONDARY STRUCTURE-ENHANCING PROCESS WHICH FURTHER FORMS THE SHAPE OF SPACES AND VOLUMES

More or less the same process which creates initial layout of buildings on the land also works, at a later stage, to turn a rough schematic plan into a detailed and orderly configuration of buildings.[6]

Here, as an example of this secondary process, I show two cases from the planning and construction of student housing for the University of Oregon. The project started with construction of the Agate complex, a group of apartments shown opposite and on page 186.

In all these examples what is being created is the *volume* pattern of the buildings and the land. Whether the pattern is urban or rural, the pattern of void and solid, the space and volumes of the built environment, is the fundamental thing which, at its own specific density, defines the texture of our environment. Always, without exception, every building task must be related to this pattern of void and solid, it must always make a contribution to it, it must always make a positive impact on the voids and on the solids so that the whole pattern, black and white, or void and solid, comes to life.

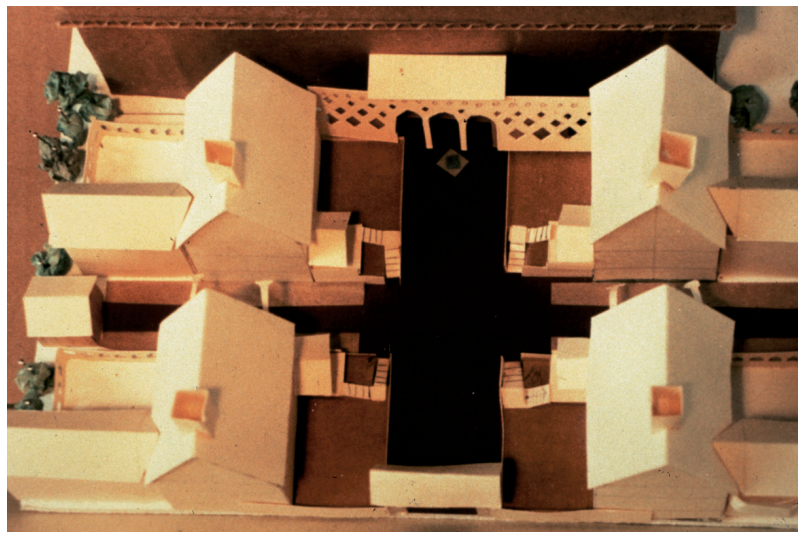
The stage of a living process which I have sketched in this chapter is marked, really, by the fact that when we are done with this phase, a whole project can be seen, in its essentials, in a small paper model made at a scale of 1:200 (metric) or 1/16th inch to the foot. What I have covered in this chapter may be viewed as that phase of work which culminates in the making of such a model at 1:200 scale.

My reference to the scale of this model is meant in earnest. The topography is in modelling clay — not merely layers of cardboard, because they are too crude. It is the feeling of slopes and land which is imperative. Nearby roads and buildings are on the model. The buildings are made in manila-folder material (a light buff-colored card, a little stiffer than paper). Trees are to be on the model, either as crumpled tissue paper, or rough scale bits of cow-parsley.

It may sound absurd for me to be so detailed and to insist on these details as I am doing. But many years of experience have shown me that this combination of scale, material, detail, and absence of detail, gives just what is needed for us to be able to say, "Now we have the volume and site just about right."

If the model is more detailed (1:100, say), it goes too far. If the model is smaller (1:500, say), we cannot judge the spaces, or slopes, or heights as sufficiently real. If the cardboard that is used is stiffer, it becomes more formal, harder to change. The kind of light card I have mentioned (manila-folder material) is easy to cut and paste. We can be uninhibited in doing surgery on it. If it is stiffer, more formal, like a presentation model, we will not freely cut, paste, glue, change to get it right. If the cardboard is thicker, it will be too crude, and will not feel like a real building at the 1:200 scale — and as a result, then, we cannot judge the actual feeling it produces. When we put our eye down, at base level and look at it, cruder cardboard will not give us a realistic impression of the way the volume of the real building might feel and we shall therefore be less skillful, less able to make accurate judgments about the volume, space, and their effects.

So the target of work, at this stage, is just such a paper model at 1:200, in which we establish the overall feeling of the buildings in the land, their impact on surrounding space, the meaning of the whole, its feeling as a volume. The space is either brought to life, or not. If not, beyond this stage, it is too late to get it right.[7]

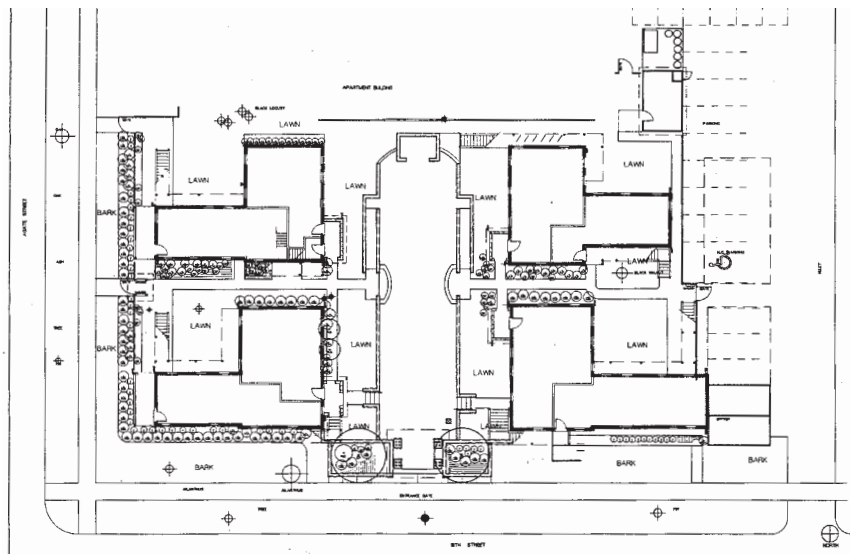


Early in-progress model of the Agate project. This is a typical cardboard model at a scale of 1:200, which completes the space- and volume-forming phase of work described in this chapter.

In order to be clear about the practical meaning of volume and site design as a distinct stage in the unfolding of a building, it is helpful to have an operational definition of what you must have in hand by the end of this phase.

Essentially, it is:

1. *You have a complete staking out of the building, on the land, with all building edges and all important exterior centers.*
2. *You have a topographic model at 1:200 scale (1/16" to one foot), which shows the land, surrounding buildings, trees, roads and of course the contours of the land. We usually make the land of this model in modelling clay.*
3. *On the topographic model you have small paper models of the building volumes. These models are best made in a very light card, the kind of material manila folders are made from; trees and bushes are realistic and to scale.*



The plan of the Agate project, showing the complex pattern of positive outdoor spaces which emerged

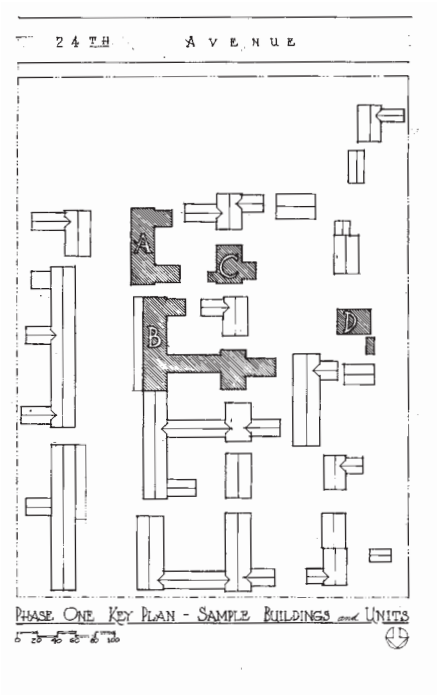
The knowledge that is contained in these three elements is the knowledge which completes this phase.[8] It is significant that these small informal models and the phase of development they represent, though extremely simple, are entirely different from the "deliverables" normally considered appropriate for early stages of design in current architectural practice. The normal deliverables include a site plan and rough schematic drawings, and sometimes, preliminary drawings. Such items cannot adequately represent a solved problem. They do not contain enough information, and one cannot feel certain, from them, whether the life of the site has been preserved and extended.

The three deliverables mentioned here, made in the form I have described them, different from today's standard professional deliverables, give a reasonable guarantee that the life of the site has been preserved, that the solution is reliable, that it is intense, and that the building does intensify the city or the land.

9 / EMERGENCE OF BUILDING VOLUMES IN A MORE REPETITIVE PROJECT

Amazon village, a larger housing project of 300 apartments for graduate students, was to be the extension of the Agate student housing and was to occupy an area of about eleven acres on flat land near the university.

The initial plan showed us the existence of a pedestrian street, connecting two parking lots, with buildings lining the street, and less and less dense courtyards of buildings, forming a gradient away from the street. There is a latent gradient inherent in the site diagram. Further structure-preserving transformations make this gradient physically real, by height and intensity of buildings, and create small paths leading away from the main street, and create gardens — progressively more and more open as one moves away from the pedestrian street.



Southwest portion of my Amazon village plan, showing overall arrangement generated by the fundamental process

Along the street the buildings are three stories high, there are arcades, and all the buildings are connected. Applying structure-preserving transformations to form the small paths, each path is made a series of lines, joining new centers, courtyards, and gardens.

The buildings near the spine are higher and longer, with arcades. The walkways going across form small pathways, not disruptive of the main spine. Each of these paths goes to lower density as one goes away from the spine, leaving a more tranquil atmosphere further away, and a more active atmosphere near to it. All this new structure not only preserves the structure of the land. Here we see how the structure-preserving process also begins to establish volumes and positions on the land, major space, major volumes.

Within the framework of this volumetric structure, detailed volumes and smaller spaces develop like twigs growing off branches, to form