



5 / LAYING OUT A LARGER NEIGHBORHOOD  
 BY A DYNAMIC PROCESS:  
 A FULLY GENERATED PLAN

Let us consider a similar process at the scale of a city or a neighborhood. In the following example I describe a planning scheme originally worked out for the township of Guasare in the state of Maracaibo, Venezuela. The process was designed for implementation in a new town of several thousand workers, but Corpozulia, the coal-mining corporation that commissioned the plan, moved its operations and implementation never took place.

This process is particularly strong because it makes use of the fifteen transformations very visibly, and the forms of land, street, garden, house, and courtyard are assembled to form an unusually dense and compact system of positive space-bearing centers. It is perhaps the closest model, presented in this book, to a sketch of an ideal neighborhood.

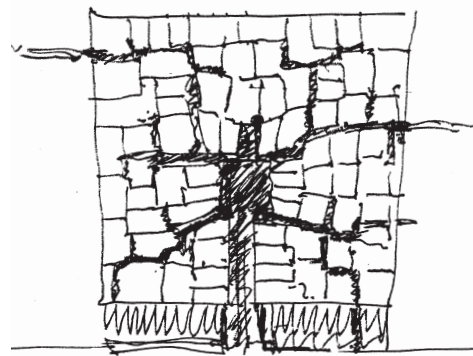
I am showing this theoretical process because it is — *as a process* — unlike almost any process that city planners or developers currently think about. It creates a different physical structure, one which is obviously more lively, more capable of being responsive to people's wishes. It has the capacity, on every block, to create an ambience which is truly unique.

What is unusual about this process? First, it is truly driven by the creation of living centers — in a form which ordinary people could make their own, and which creates a unique and beautiful environment. Second, the dynamical aspect of the process, the way it generates form slowly, is unmistakable and huge in its impact on the design. I show it, therefore, because it enables me to show, most vividly, just what a truly dynamic structure-preserving process is like in the way that it creates life in the morphology of gardens, streets, and buildings.

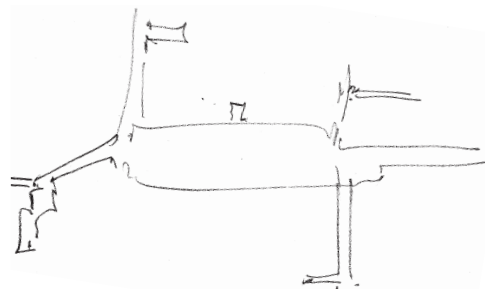
Consider an empty field in the plain of Zulua, the region of Venezuela where Guasare was to be built. And consider a process in which



*Step 1: Identifying the boundary of a new neighborhood, together with a first idea about the location of its main center: a real place, beautiful and significant, within the landform.*



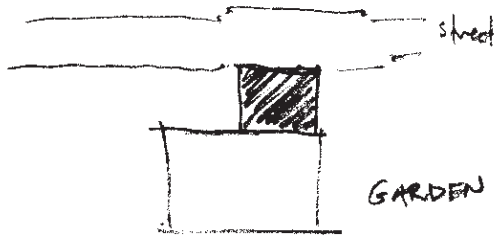
*Step 2. Smaller streets placed to help the main street.*



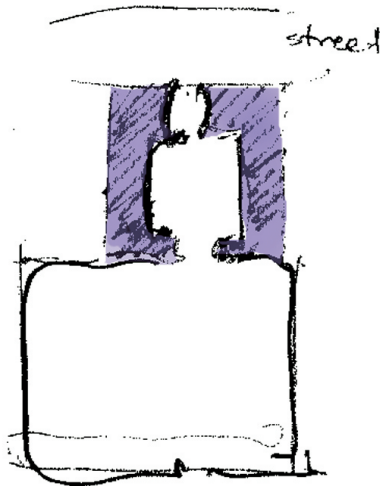
*Step 3: Swelling which forms the center of a street.*



Step 4: House positions placed (before lots) to form and shape the perimeter of a street volume.

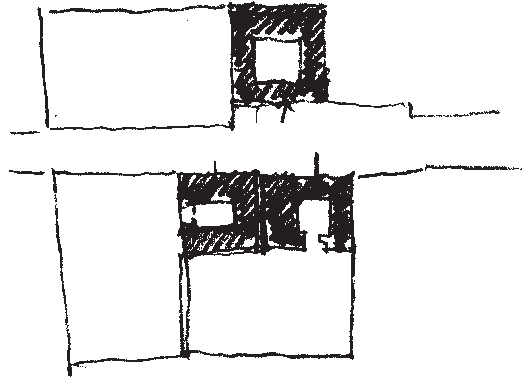


Step 5. After the house is placed, a garden, itself a positive space with a good shape, is also placed to supplement the house—but under its own rules, with its own integrity.

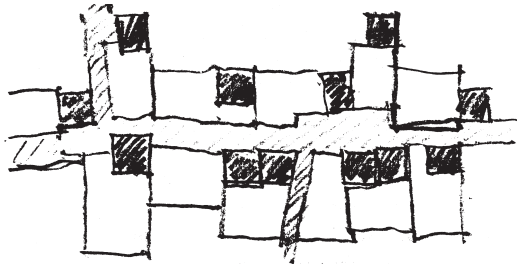


Step 6. A closer look at the character of the house-volume-plus-garden, now differentiating the house volume to form an entity which has a courtyard in it, and an entrance.

a neighborhood area is selected, and that we are to build, in that bounded area, houses for 250 families. Here are the steps which this process asks us to follow.



Step 7. Three houses and their gardens, showing how stepwise placement of the house volumes, and THEN the gardens, in places each one of which is “good,” leads inevitably to a syncopated complex structure, even in a simple case, because each entity receives its own uniqueness from the process.



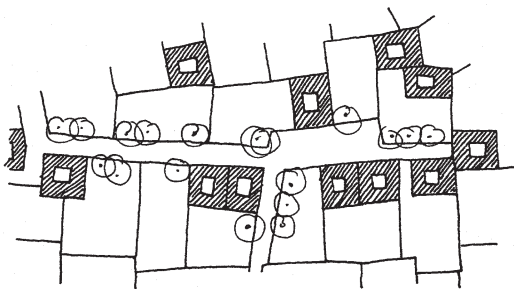
Step 8. Now we see what a street looks like when its space is differentiated by twelve houses, placed successively with their positively-shaped gardens.

Step 1. Suppose, first of all, that the main center of the neighborhood is first established in the best “spot.” It has a location — and a shape.

Step 2. Imagine a rule which allows any small street to be added, in any position which feeds into the main center, and in the center of gravity of an “empty” area. We assume that the next group of lots will always be laid out as a string, along one of these smaller streets.

Step 3. At suitable places, the street opens a little to form a swelling or local center in the street.

Step 4. Now imagine a rule which establishes a volume for each house at the time just after the street is laid out, so that the street is formed as a center by the forthcoming volumes



Step 9. Lots which can allow the house volumes.

of the houses. This happens at the time of the formation of the street, long before the houses are actually built.

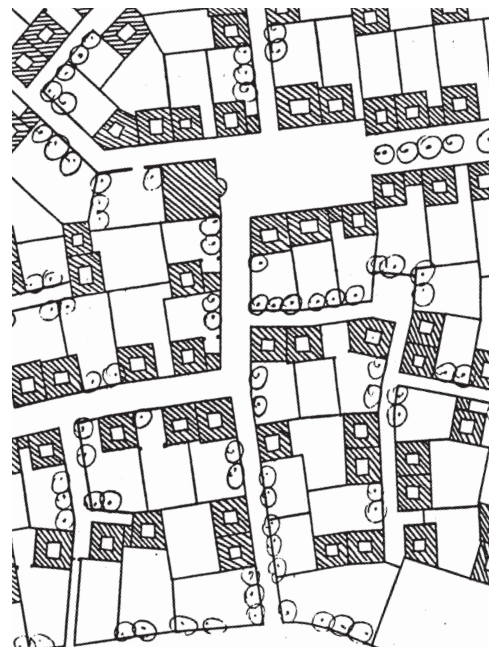
Step 5. Imagine, fifth, a rule which establishes the garden for each house as a positive center after the volume of the house has been established — and that *this* is the way the boundary of the lot is defined. The garden is given shape and coherence by its own necessities, without regard for lot lines. This happens *before* the lot lines are drawn.

Steps 6–9. Then the undifferentiated house volume is differentiated further to include an entrance and a courtyard. In the course of this process, the courtyard is shaped with the entrance, and later with a veranda bridging the space between the courtyard and the larger garden that it leads to.

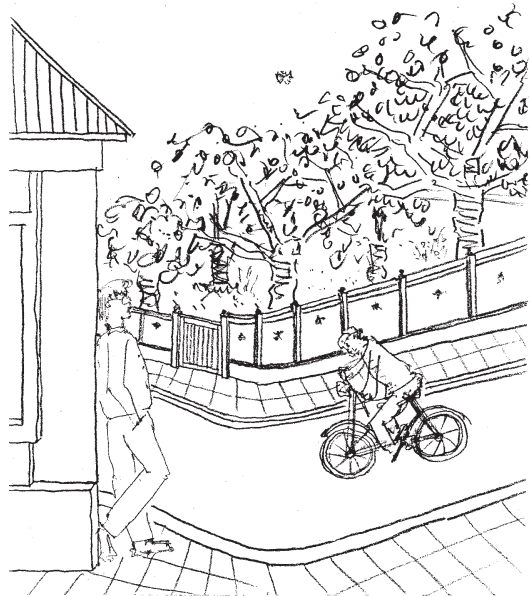
Step 10. Only after the courtyards and gardens have been established as coherent centers, in relation to the houses, *then* the lot lines are laid in, because that is the necessary sequence in order to get the centers to work.

So, in summary, the process is first of all concerned with the formation of the street as a center. The street is to be formed by houses. As each street is formed, the houses which can support that street are defined as volumes — then the gardens, and then finally, after that, the lots which can support these houses and gardens are defined and established legally.

So far this is all design, done by placing stakes in the ground. Next the houses are actually built, or partly built. The actual volume of each house is given detailed shape according to other

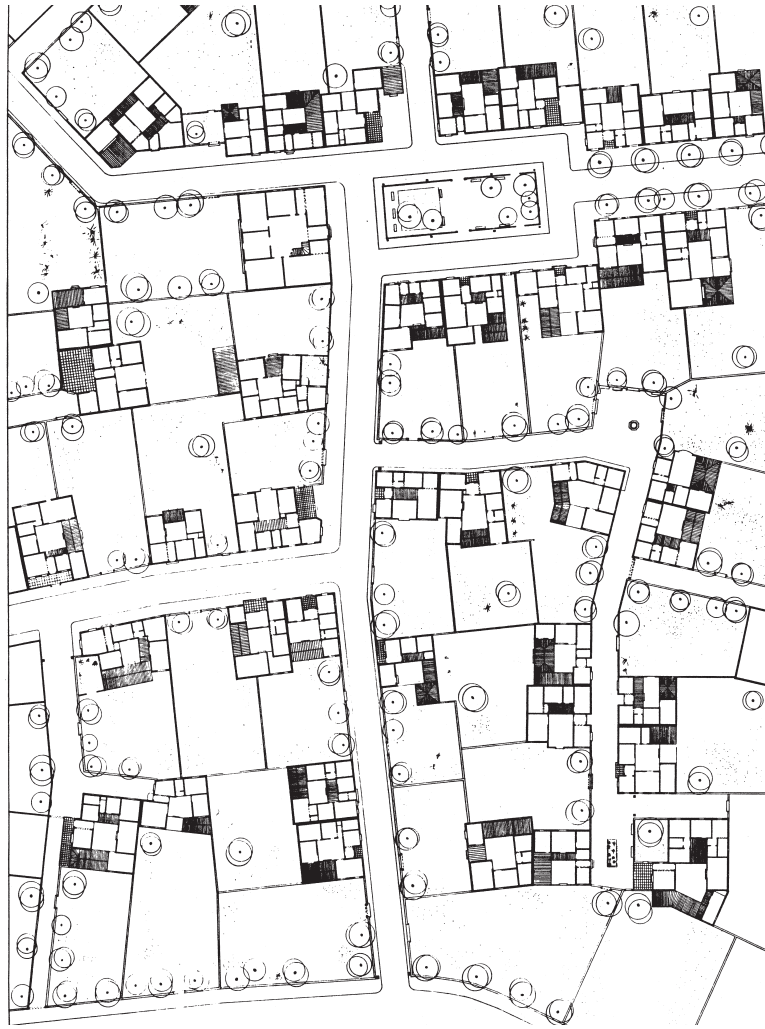


Step 10: Houses and lots and gardens formed together.

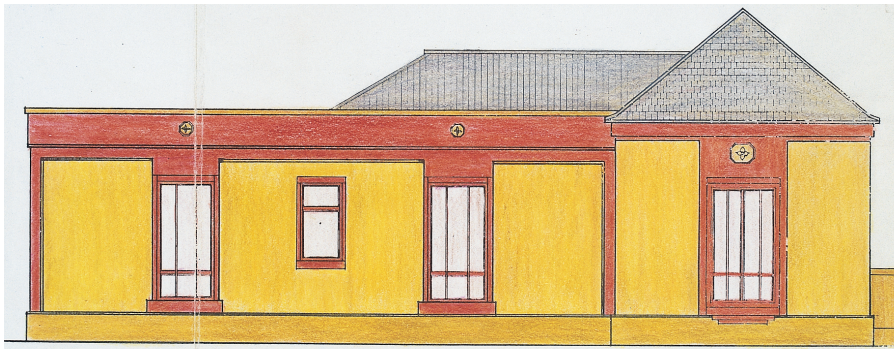


The informal atmosphere created by the garden walls and narrow streets.

nearby houses and according to conditions on the site. The final detailed volume which emerges from each house, at the time of its construction, will never be exactly the same as was

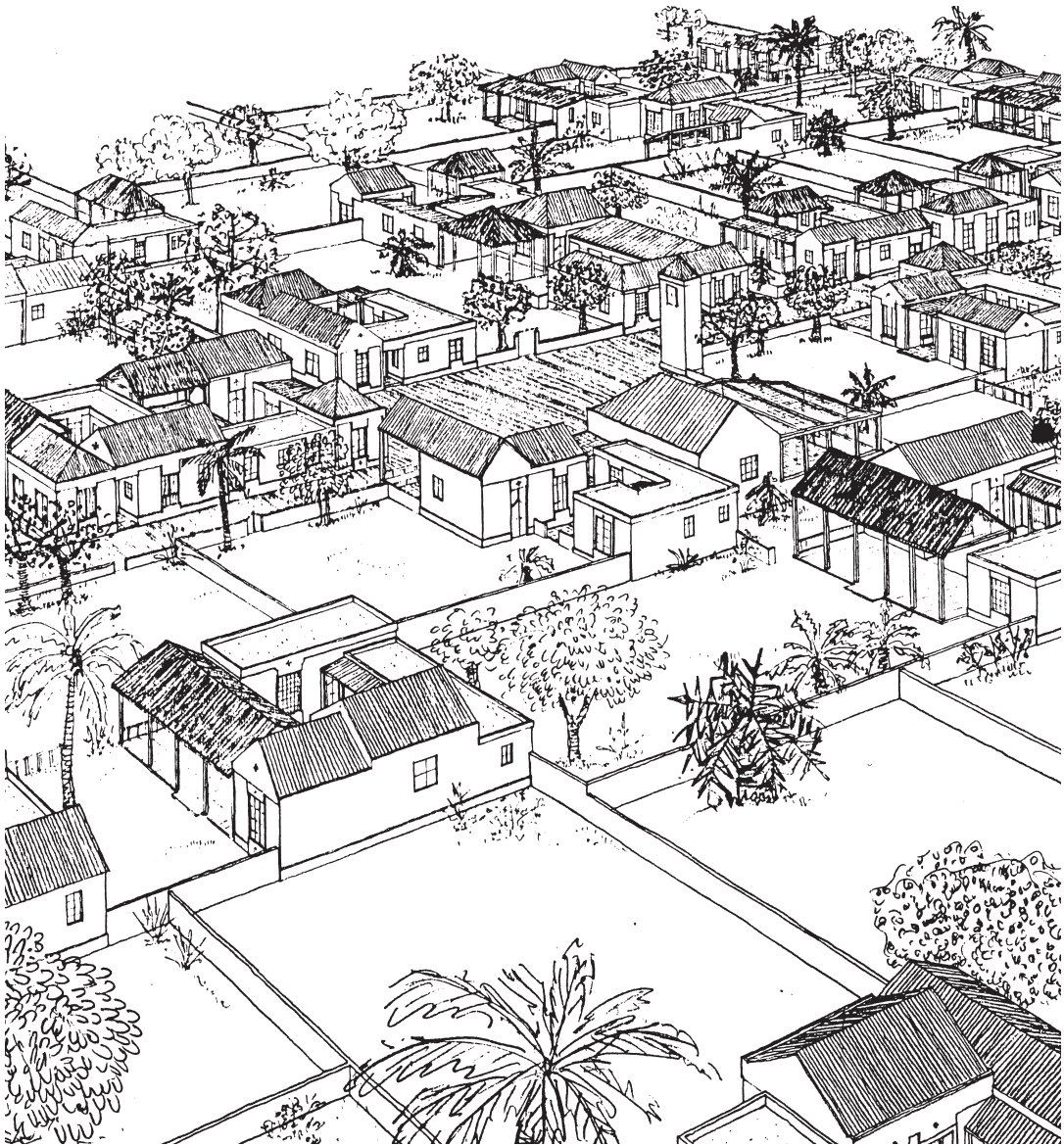


*A simulation of the process for Guasare. Part of a neighborhood showing positive space of gardens. The plans of houses are shown in outline, room by room. The main room of each house and the veranda are shown darker, for emphasis. The meaning of "simulation" in preparation of a plan like this one, is discussed on page 347. Please read the important note on page 360. Christopher Alexander, Artemis Anninou, Hajo Neis, 1986.*



*Archetypal house for Guasare New Town, Venezuela, Christopher Alexander, 1988.*





*Part of a neighborhood, showing positive space of gardens and the free and easy character which develops from this process. It is really a pleasure to live in such a place.*

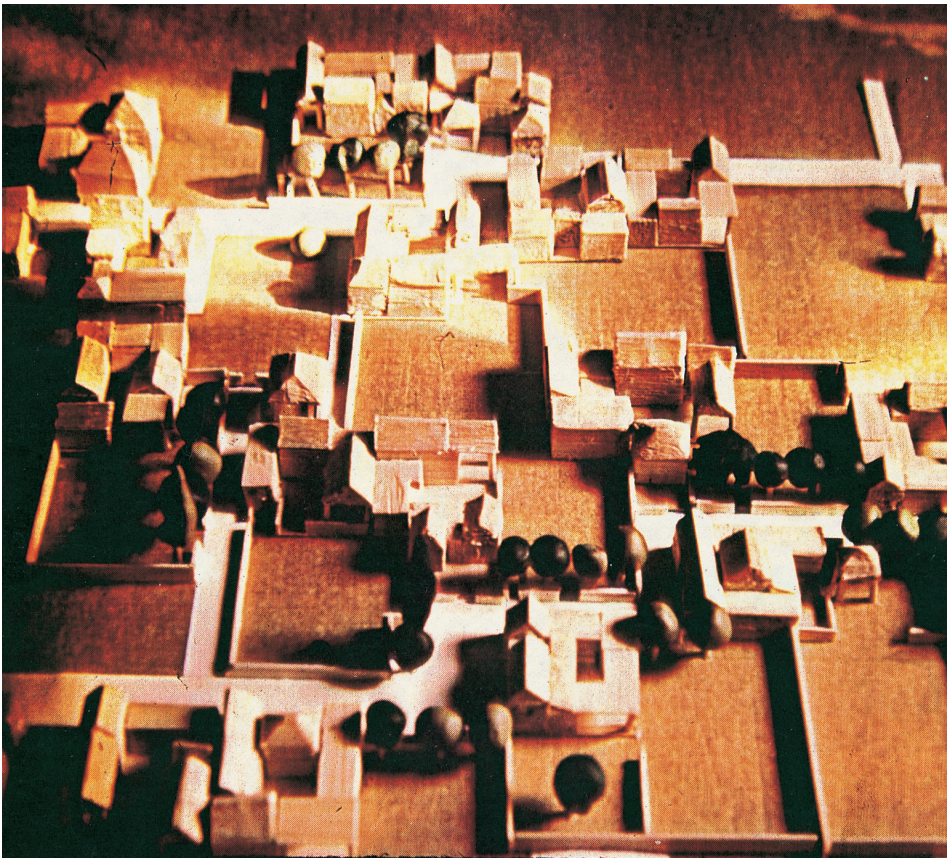
*Christopher Alexander with Artemis Aninou, Hajo Neis, Jonathan Fefferman, 1986.*

imagined when the house was first defined as an outline volume.

Finally, the street is built physically. This must happen after the houses, not before, and comes in response to the real volumes which the houses have taken on during their construction. At this time, not only the physical substance of the street — its pipes, paving, sidewalks — can be built, but also various small walls, benches,

trees, all placed in response to the realities which have been defined by the real process that has taken place. In this system of rules for neighborhoods, the dominant fact is that the neighborhood streets, lots and houses get laid out in such a way that *everything* — I really mean every single part of space — becomes a living center.

To grasp this result of the process, please look on page 343 and on page 347 to see the end result.



*Model of a neighborhood showing positive space of gardens. Alexander, Anninou, Neis, 1986. See note on page 360.*

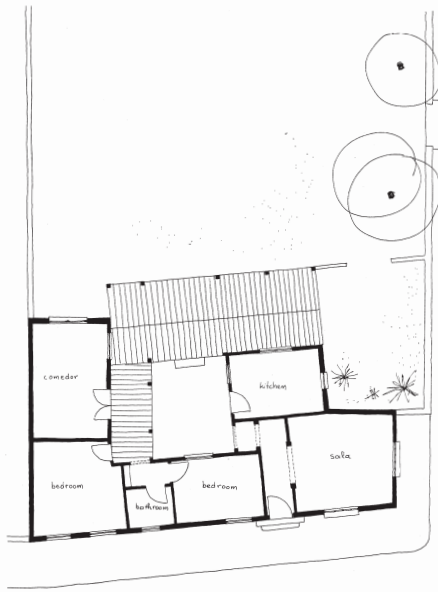
It is very different from the conventional American house in the middle of its lot with two side-yards. Instead, in the plan on page 343 we see the streets, small squares, lots, and houses. If you examine the plan carefully, you see that it is unusual by contemporary standards. Every single bit of space has the loose local symmetry which produces a center. We see the gardens, the pieces of the lots which are outside the houses, forming centers. We see that in those cases where the garden is broken into two, it is made of two centers. The house itself, as a small courtyard, forms a center in its own right. Each section of the street forms a center. Where streets meet, there is another center in the form of a small square.

In many traditional societies, such plans were commonplace because the process of placing and building was an unfolding process which produced them almost automatically. But in our

present era there are few plans built which have this dense structure in which *every bit of space that exists* forms a strong center.

A design which has so many centers can only be produced by a very special social process. In fact, we have to make a lot of concessions, and do things in a way that may seem unfamiliar in order to get a good result. For example, the lots are not simple rectangles as lots in a subdivision usually are. In order to make each garden a center and each house a center, we have to use a process which explicitly recognizes the way that every lot needs to be composed of these two centers. To do it, we first locate the house according to the needs of the street. Then we locate the garden in such a way as to form a center in relation to the house position. This produces an irregular zig-zag lot in many cases. It is not particularly difficult to do this, though it poses minor prob-





*The house is made as a courtyard house, with a veranda (shown as a roof, only) to close the courtyard. The courtyard is introduced so that it complements the house and has a relation to the garden beyond: The veranda, as the boundary of the courtyard, creates a positive relation to the garden, a seam which knits the two together.*

lems for the recorder's office or for the land surveyors. But one would not usually think of doing it. It is only the paramount importance of the centers and the need to have a process that generates strong living centers that will generate this kind of effect.

The same is true of the relation between street and houses. The street is laid down as a rough line. The houses are then introduced one by one to form the street. Of course, as we know, the space of a street is produced by the houses that form the space. In this sense, the street will become a strong center only if we have a process which explicitly recognizes this relation, and which "builds" the center of the street by making centers from individual houses, one by one, and placing them in such a way as to strengthen the life of the street. Again, this is an unfamiliar process. Some version of this process may have existed in traditional society (though usually more drawn out in time over many decades or even centuries). In modern society we do not yet have processes like this. Usually the street is drawn

on a plan by an engineer who is quite unfamiliar with the importance of the street, or with its need to have life, or with the fact that it will draw its life from the way that surrounding buildings are placed to form it.

We need an explicit process of street creation, where the all-important character of the street as a center is recognized by everyone concerned, and then houses are brought in, one by one, as centers, in such a way as to form the space of the street. This will require a technical process unfamiliar to present generation public-works administrators and engineers. There is nothing inherently impossible or even difficult about this process. But it is simply different from the process which most people took for granted, and considered "normal" in 1988 (the year this process was invented). The whole process is explicitly center-creating and structure-preserving throughout.

#### THE STRUCTURE-PRESERVING PROCESS AND THE CENTERS IT CREATES

*First the land.*

*Then the outline of the neighborhood.*

*Then the streets placed to enhance the center of the neighborhood.*

*Then the house fronts to form the streets.*

*Then the gardens.*

*Then the houses.*

*Then the courtyard which forms the center of the house.*

*And so on.*

We start with the shape of the land, and find the natural centers in the land. Then the boundary of the neighborhood. Then the most natural center for the neighborhood. Then the network of streets which does most to enhance that center and the feeling of the neighborhood.

Then the house fronts are placed to form the streets — in such a way that each street arises from the wall of houses. Thus the house as a center, starts with its main purpose in life being to create the street.



*Neighborhood planned for Guasare New Town, Venezuela, following the steps described in the text. Please read the important note on page 360. Christopher Alexander, Artemis Anninou, Hajo Neis, 1986.*

Next, we place the gardens. Each garden is a center in itself. It is placed, lazily, without regard for the symmetry of property lines — it is only by doing this that we can get each garden to be a nice center, and also make the houses as centers which help the street. Each garden is placed in such a way as to intensify the house, and to intensify itself as a symmetrical and compact rectangle.

Then we place courtyards. The courtyards will form the edge, the bond, between house and garden. Each is a center which focuses the house around it and simultaneously looks into the garden, enlivening the garden, too. Once again, the main function which this small center has is to intensify two larger centers. In the resulting neighborhood, because of the





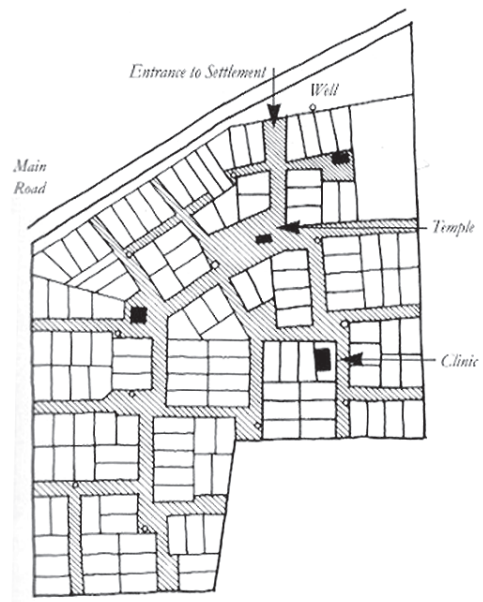
*One of the houses in Howard Davis's community in Kerala. In this case the people live under conditions of extreme poverty, but even so are able to maintain a simple dignity with the house, a veranda, and a view into open land, the very same conditions that makes the plan of the Venezuelan project work.*

structure-preserving process, the design which has been established is profound. For instance, there is a sequence from street to house, to courtyard, to garden. Each of the centers in this sequence benefits from the sequence, and is strengthened by it.

If we think carefully about the organic, truthful and biological quality which is obvious in the drawings — especially the large drawing on page 347 — we see that the only kind of process which could produce this structure is one which does produce it step by step.

This is the kind of dynamic process which is needed to produce a living field of centers in a new neighborhood. The traditional neighborhoods which we love in various parts of the world were all produced by this kind of process (different in geometry, similar in character of process). It cannot be done any other way. To build new neighborhoods with life, we must find ways, like this, of constructing an intense (and unpredictable) field of centers to create the spaces of the neighborhood.

*The essence of the process is that it generates coherent, yet quite unpredictable structure, simply by applying a few simple rules to a piece of land and*



*A community of 130 houses built in Kerala, India, by Howard Davis. A project of a similar type, with comparable use of the fundamental process, 1996.*

*its natural idiosyncracies. That alone, and the interaction of the process with the previous outputs of its own effects, is enough to produce the most beautiful order. I do not believe it can be done in any other way.*