

The need and desire for urban centers will, however, persist. It is to the advancement of this form of endeavor that this proposal addresses itself.

### **An Equatorial Version of the Concept**

The north-south orientation of Ecocity could be reversed depending upon latitude. So far I have dealt with residential units facing south as an absolute necessity of the design. That has to do with an orientation on or about 45% latitude. What of this kind of city in the orientation of the Tropic of Cancer? In that situation the orientation reverses. There the city would be in a desert or a very arid region.

The city would be circular in plan, in a very large circle perhaps a half-mile to a mile. Dissecting the circle east to west is a large parabolic arch the same height as the radius of the circle. Stretched southward from the parabolic arch is a set of tension cables in a hyperbolic-paraboloid sheet. These form the structural supports for a solar energy collector. The city is a giant energy collector, energy which it exports. It is like a solar oil well in the desert.

On the north side of this circle is a shaded area. However, since the sun is sometimes directly overhead this presents a design problem. The houses are oriented northward and will receive sun into them in the morning and the evening but will be shaded at noon.

In this Islamic type setting the design will be hexagonal. The floor plan will be like a bunch of vertically stacked hexagonally shaped pencils nested together in varying heights for various reasons. Sometimes the ends coincide to make larger rooms i.e. seven pencils together make an array of seven hexagons. There are many interesting polyshapes possible with hexagons. The architecture develops from this. It is rectangular in elevation but hexagonal in plan on this module. This module admits to circles within and without the hexagon and emanating from the points of the hexagon; also the six pointed star and the cross rhythms of the four and the eight. That is the aesthetic basis.

This city has to be installed in place. It can't be "grown" like a northern city because everything—building materials, labor, even water—must be brought from a great distance, and conditions at the site make construction labor very expensive. At least the original version must be built from industrially similar structural elements.

There are north facing half-round balconies, around these hexagons creating a room inside the hexagon surrounded by a circular balcony overlooking whatever vista exists. It would be shaded much of the time; maximally at noon.

and raise a family. Then it may not be possible or desirable to move back into the parent's home making it necessary to wait until a new house opens up or to join a new community that is building a new neighborhood hillside.

To facilitate the maximum sense of stability for children growing up, the rights of possession of the house goes to whoever is the effective provider of nurture to the child or children. This would normally be the mother. This would present the premise of primary inheritance being matrilineal rather than patrilineal.

The present tendency of the nuclear family to dissolve in the face of the parent's felt need to maximize the values of their own life will not abate. Family solidity is found in societies where poverty or other considerations of the harshness of life prevail, where the family is the only security, particularly for women. If the family did not exist there would be very little hope of surviving in anything but the most abject poverty. That solidity is also found in places where there is a strict religious proscription against divorce such as in Catholic and Muslim societies, where there is a high degree of male sexism and where the male is allowed to satisfy his sexual appetites without endangering the longevity of his family.

What would the individual family dwelling look like? Here again extreme variability is possible. One would be ultra-high-tech, where the structure is light weight metal construction designed like an airplane with weight and thermal values being considerations while at the same time being plant-friendly. There would be maximal light, plants and interfacing with other life forms.

Another possibility is streets with San Francisco style facades, in fact any of the traditional townhouse designs could be brought into play and used i.e. the Dutch town facade, the Parisian town facade, the Italian Palladian, the Greek, Arabic, and Turkish would all work.

Another possibility is that each one of the sites for these townhouses is given to the user as if it were a bare piece of property, a concrete cave that opens out to the south, variable in width with perhaps a minimum of twenty and a maximum of fifty feet and has a window to the inside overlooking the commercial area of the town. Meeting individual needs and specifications would create an architect designed dwelling. This may be the best approach for the first prototype. It would result in a high degree of textural variety similar to towns with individually built and owned houses and apartments. It would have the traditional look of a hillside town. It would have a higglety, piglety aspect.

I do not mean to imply that this town-neighborhood-city form, as attractive as it is to me should, or even could, become a universally utilized urban solution. Because it is possible to build or rebuild only a small percentage of the needed housing during the lifetime of any one generation, most people will live in existing dwellings in existing communities. In North America, in particular, I see the rebuilding and repopulating of the rural countryside as the first priority as long as it is accomplished with the population permanence and respect for Gaian imperatives implicit in land usership or a similar arrangement. The investment required to rebuild small-town America will be far less than that required to rebuild urban America. The return on that investment, particularly in terms of a more healthy biosphere, is much likely to be higher, as well, if planned properly.

the preponderance of hills and valleys are oriented north to south so that the percentage of land area that is in north and south facing slopes tends to be considerably less than the percentage of the land area than is in slopes facing east or west. This makes for a problem in siting a neighborhood and particularly a town that is based on a south facing orientation. This, however, is not an insuperable problem. It means that the configuration of the city will be greatly altered depending on where it is built. The archetype described and shown in this preliminary disclosure assumes a relatively level landscape. Most land is not level. Technically there is no land that is level; rice paddies perhaps. The Great Salt Lake. The land that is relatively level is bottom land of rivers, usually the fifty or hundred year flood plains that should not be built upon anyway, or if built on, built on stilts. In most cases the projected structures would be built on hillsides of greater or lesser slope in a variety of orientations.

Another important consideration is that of view. If there were an important view to the north, the northwest or the northeast, especially if it were exceedingly striking as you might find in various places in the Northwest, it would want to be recognized by not having dwellings turn their back on it.

Another siting consideration is whether the new town is in currently unoccupied or sparsely occupied or wild land where little demolition needs to be done and little uprooting of existing road, street, and building infrastructure is required. Or, would it be an urban renewal project? This proposal shows great promise as an urban renewal strategy. If it were built where there is now a slum of a given density, the center would be built gradually followed by the new industrial and commercial areas on land that has been gained by eminent domain while the surrounding area, hopefully mostly residential, is purchased bit by bit. Temporary homes are found for the occupants and the buildings are razed over a period of years. The outlying areas, the areas of farms, gardens and open space and the wilderness ring surrounding it would be gained by a process of attrition and the residential shell over the commercial area would then be built. The density of the new city would closely match that of the old. Now if people wished to relocate in the area where they had been, there would be enough space for all of them. So, there are a multitude of options relating to the macro configuration of such a neighborhood or groups of neighborhoods forming a town.

On the micro end is the individual town house dwelling. Here again there is a great deal of variety possible. One possibility is allocating enough space to accommodate an extended family of eight to ten people, i.e. two under-aged children, their young parents, the children's grandparents who would be in their fifties and the great grandparents who would be in their seventies or eighties. The ten of "eight to ten" is to accommodate differences in families, for instance if there were three children or a spinster aunt, etc.

There are also groups other than the nuclear extended family such as two sexually active couples with four or five children who want to exist as a family. Rights of inheritance come into play since the idea is "if you were born here you have a right to stay here". The question is, "stay where?" In the house where you were born? One may consider that ideal while others not. It would not necessarily have to be that way. There are two patterns. One would be where that particular house would be a family home passed from generation to generation. The other would be that the town is "home" rather than a particular house. For instance, a young adult, wanting the experience of being independent, might move into an apartment. Later on, that same person may want to get married

would be the continuous ambiance of splashing water; one would never be far from that whispery sound.

### **The North Wall Of The Interior Space**

A high wall with huge windows encloses the north side of the interior space avoiding the feeling of a basement. It would have the north light of a giant artist's studio. That might tend to obscure the time of day, so it is important that shafts of direct sunlight come through at various points. In the morning they would come through on the east side. In the afternoon they would come through on the west.

### **Security**

Security would be much enhanced by this kind of design. There would only be two vehicular ways in and out of a hillside. It is not a continuous grid from neighborhood to neighborhood where anyone can come from any direction at any time. It would be easy to monitor the normal way. I am not in favor of putting fences around the exterior of the hillside because that is where the wild area is and wild animals should be allowed to roam there. There is the possibility of fencing the entire area at that point creating an ironclad security. The point could be made that a new kind of provincialism would result from an urban fabric that was like this. That is part of the reason for the proposal that there be strips where chaos is possible, though the design function of the strip is to connect town to town along the main thoroughfare that would have a certain network of streets, a few on each side of the thoroughfare that would connect town to town. The strip development would be shared from town to town.

### **Two Considerations Left For Last: Macro And Micro.**

The macro has to do with the overall shape or form of the neighborhood community, or the overall shape in which the concept might manifest itself. There are many variables here. One is the climate in which it is built. If it were built in Siberia the totality of the city might be built under a giant gossamer geodesic dome mounted on a circular masonry foundation wall that itself protruded sixty, seventy, a hundred feet above the surrounding terrain in which the residences would have a window to the outside but on the inside there would be the effect of a coliseum, a bowl shaped interior so that the apartments would give out both to the outside and the inside. In addition to commercial space on the inside there would be year around gardens.

In a tropical configuration the degree of separation from the exterior climate would be considerably different. It could use traditional tropical climate control strategies. Getting closer to home, there could be a wide variation in regional strategies. One could be quite a different animal on the eastern slopes of the Cascades in the Columbia Basin than it would be on the western slopes in the Puget Sound area. There would be a different climate, different light, different numbers of hours of sunshine in the year, different indigenous structural materials, different moods in the weather and landscape to name only a few considerations.

Getting even closer to the particular there is a vast difference in the topography that these structures would be fit to. For instance, in the Puget Sound area we have a glaciated terrain which means that

connecting the town houses would be good for bicycling. There would also be a pedestrian hallway on the inside. Two means of egress are necessary, inside and outside. There would be a connecting hallway that would be inside on the same level as the connecting streets. It would connect stairway to stairway. At intervals on the interior would be pedestrian elevators that go down. There would be bubble cars but mainly they would be used to go out of the area. You could drive your bubble car to the connector road that runs down the east and the west side and drive it into the commercial area to pick up merchandise.

### **The Location Of The Elementary School**

The elementary school should be centrally located on the outside base of the hill. This would make it the closest walking distance for the children and would give onto the playfields. There should be a north and south core that goes into the building so that as you go in there would be various central facilities that would be usable by everyone: the health care facility, the senior center, the library and others.

### **Commercial Spaces**

The commercial spaces would be on the ground level. There would be shops and stores. This section would look much like a present day mall but because it would not have a region to feed it, it would not be as big and elaborate. It would be a series of small shops on the European model where the shops would not be open all the time and could be very specialized. The people running these shops might do so on a part-time basis and would depend on them for only part of their living. They would, then, not have to make a great deal of money by selling their books, records, used stuff, vegetables, fruits, fish, etc. The food section would be based on the model of the Seattle Public Market where there would be locally produced fruits and vegetables but all together it would have what a large modern super-market has: everything needed for day-to-day consumption. In addition, there would be professional services of various kinds and small restaurants. Local people running businesses in this area would have low or no rent. Franchises would have to pay rent as would large and national or multi-national corporations.

In the basement there would be manufacturing of the most high-tech variety possible with lots of robotics. This would make it possible for people responsible for manufacturing to mostly function as inspectors and packagers of the goods produced. If electronics were being manufactured, for instance, then giant electronic corporations would be one of the sources of capital as well as a source of continuous employment. There would also be unused space in the basement area so that from time to time if one area became non-competitive something else could be brought in. Over the course of years many people in the community would probably engage in the arts which would require not only studios but storage spaces for finished art products that were not sold and for materials etc. The point is that there would be a lot of bare space when the neighborhood structure was first built.

In the large open space below the main neighborhood structure there would also be a continuous canal which could be used as part of the commercial infra-structure as canals are in Venice and Amsterdam. Fish would be grown both for decorative and eating purposes and there would be both commercial and recreational fishing. There would also be fountains. In all parts of this area there

collection towers, chimneys for the disposal of used air. Every effort will be made to clean the air inside. These towers should be fanciful in design not utilitarian. They should also have stairs in them so that people can go and look out over the tops. At night there would be flashing colored light displays and one or more restaurants from which one could view the distant towers of the neighboring hillside towns. There would be telescopes making it possible to view other people dining miles away. There are undoubtedly other imaginative and enjoyable possibilities like a small amusement park.

Since there would be an open space beneath, the support for these towers must not add to the already considerable structural stress on the hillside structure. They must have their own structure which goes continuously vertically down to solid bearing in the bottom of the structure. Once the tower structure reaches the inside of the hillside it becomes a multi-story office facility that, instead of being walled with windows, is an open structure with balconies lit naturally by huge windows which also provide a marvelous view to the north.

### **Town Houses**

The back side of each townhouse would have a window into the interior space providing a continuous aerial view of the workings of the urban area. One could look down on the fish market and if the proprietor was putting out fresh fish, a call could be made to ask Joe what he had today. "I've got perch; it's fresh, looks real good, and there aren't too many." "Well how much is it?" "They're a good buy, only fifty cents a pound, we want to move them." "Could you put three away for me? I'll send the kid." "No problem. I'll put it on your bill." One could then place a call to one's spouse's working space in the office building on the north side of the lower area. "Honey, you want fish for dinner tonight? Joe's got fresh perch."

This kind of interaction would create a high-touch environment. Each townhouse interior window could be fanciful like the stern end of a gondola or an airplane cockpit. It would stick out of the sloping ceiling that would be the roof of the interior space. One could also communicate with ones neighbors in this way. The government offices would be in the central tower and visible to all but the lowermost residential units which would be built on solid ground and would have to be hooked up by TV.

There could be town meetings that lasted for less than an hour in which everyone could participate without leaving their own homes. That would be novel and fun. One could have marginal participation in which, if the proceedings were boring, one could go to the kitchen for a beer or whatever and tune in and out of the meeting and yet be very much in touch in a very democratic way. Every evening there could be live entertainments staged on the ground floor viewed from the cockpits that jut out into the open space or at a closer proximity by taking advantage of the seating around the stage area. Bars and restaurants in the immediate area would make it possible to have dinner and/or drinks while watching the show. Underneath these places there would be private bars and restaurants not visible from everywhere. Or the restaurant could have two levels. One could be like a sidewalk cafe while the lower part, where the kitchen is, could be closed-in and intimate.

Everything would be within walking distance. A quarter of a mile is about as far as anyone would have to walk. This would save energy while providing easy exercise. Also, the level streets

a narrower street right-of-way than is normal for urban streets. This would require smaller vehicles. Even the emergency vehicles would have to be scaled down. The fire department would have fire hydrants available to each townhouse so that large fire engines would not be required. Ambulances, likewise, would be scaled down in size.

At right angles to these streets, going up and down hill, between every several townhouses, say four to eight, are public stairs. These stairs serve functions other than just an access for walking up or down the hill. They also serve as a continuous planted greenway. They also serve as a continuous watercourse. They would be picturesque—with bridges going over streams and streams forming ponds with fountains. There could be glass bottoms in the pools and various other ways for shafts of sunlight to come through so that sunlight would enter the interior space.

### **The Exterior Of The Hillside**

As much as possible the exterior of the hillside should be extensively planted. Each townhouse would have its own garden and in addition there would be the public greenways going along the streets. Since trees would be planted there would be a need to support a lot of soil to accommodate them. This would be heavy which means a heavy supporting structure. The structure has to be rigid. If the floor structure is at all springy it will give people a very insecure feeling knowing that there is only open space below them. They should, as much as possible, get the feeling that they are on solid ground.

There are two opposite structural approaches possible along with many intermediate solutions displaying aspects of both. The two have separate aesthetics. One is to simulate the feeling of a real hill by employing stone surfacing, a lot of bulky, heavy masonry and maybe a continuous mantle of soil over the entire top of the hillside with a continuous concrete structure underneath supporting that. Rather than any attempt to produce a large clear interior space, a system of vaulting and frequent columns should be constructed in the space below to support this weight efficiently.

The alternative, at an extreme, would be like a suspension bridge with tensile members strung from towers or parabolic arches. If it were towers they would be on the north side. If it were arches it would be a parabolic arch running from east to west from which would be strung suspension cables. The suspension cables would be from high elevation to low elevation. The ones that are north and south and then ones that are east and west would be southerly facing arcs that would be level and follow the same slope as the streets. Over this everything structural would be as light-weight as possible. This would mean that houses, instead of being constructed of traditional structures, would be light weight structural insulation; plants would be grown in light weight metal containers filled with plastic pellets (or hydroponically) whatever would be the lowest weight. This structural approach would produce a light weight, high-tech feel. There would be no stone, no brick. Natural materials would be limited to those that are light weight such as, and perhaps primarily, wood. There could be various compromise structural solutions between these two. The first experimental example of this form might very well be one of these compromises.

On the top of this hillside I would place a reservoir lake with a park around it. Rising from that would be various towers: apartment towers; towers for radio communication facilities, solar energy

tubs. The chateau would face the open space but back up to the wild space. It would be surrounded by very well kept gardens.

The idea behind this is that the people that live in the town could reserve the use of this chateau on a first-come first-served basis for such celebrations as anniversaries or birthdays. Normally one could not rent the entire chateau. The people who lived there would run it like the bed and breakfast establishments of the present day. But, an extremely posh bed and breakfast. Everyone in the community could have the experience from time to time in their life of living the way the very wealthy do. One could rent a suite for a vacation and be served by the residents during that vacation and live in the lap of luxury. This would satisfy, in part, the felt need that everyone in America seems to have: Oh! yes, one day I will be rich and be waited on. Not everyone can be rich and be waited on. Reality does not provide that possibility, but reality does provide the possibility of having that experience in ones life.

Along the roads out of town would be a narrow strip that would be purposely given over to haphazard development. There are necessary facilities that pollute. There are people who for one reason or another don't fit in, who do not want to live in a neighborhood, who are alcoholics, drug addicts. Or X rated theaters or topless bars, for instance, may not be welcome in the regular neighborhood community. But an area of roadhouses, junkyards, etc. seems to be needed. It would, in short, be an area for chaos.

Also in these areas we might find solar collectors. This city will be powered by solar energy. There is a temptation to put the solar collectors into the city itself but this might be dangerous. If it were a large parabolic disc perhaps twenty feet in diameter, a mirror that focuses solar heat for creating steam energy, it would be something that would be out of place in a neighborhood. The proper place for it, then, would be in the strip.

### **Streets In The Residential Area**

Most hillside towns have steep streets. As charming as that may be, for day to day living they're not ideal. What is proposed here are level streets that follow the contour of the hillside. A street will be double-loaded in that it will feed a townhouse that is on the uphill side of it and a townhouse that is on the downhill side of it. Golf cart size electric vehicles, bubble cars, will travel these relatively narrow streets. The traffic will be quite sparse because the number of units fed will be small. There will be more units at the bottom of the hill, perhaps fifty along the street rising to just a few at the top. These streets run the full length of the hill that forms the neighborhood without any cross streets. Changing levels is accomplished on a street that runs east and west at the east and west end. It will be a fairly steep collector street. Although this arrangement is somewhat inefficient (suppose you want to drive to your backyard neighbor's the next street up from yours) it would not be a great inconvenience. Along these streets there will be a continuous landscaped pedestrian parkway.

The vehicles in normal use would be four and a half feet wide 2-passenger electric bubble-cars. The streets themselves will hopefully be no more than twenty feet wide and would have sidewalks on both sides. The outward sides would be planted. If there were no planting there would be a minimum of twenty to twenty four feet devoted to circulation with a maximum of fifty feet. This is

The next study would be structural feasibility, and along with that, economic feasibility. At first blush the building of a hillside to support the residential community would seem like a massive undertaking and a consequent economic burden. My hope is that detailed analysis would show that by placing the manufacturing and commercial utilities underneath such a structure (thereby creating the roof over those functions) that further structural requirements would be reduced to interior partitions with consequent savings. The lengths of roads would be vastly shortened as would be attendant utilities: sewer, water, power, gas etc. A much more energy efficient environment would be created both as far as heating/cooling and the energy required for transportation. When these are balanced out against the increased first cost of the structure, the proposal outlined here will be seen to be far more labor and energy efficient in the long term.

This is not a design which will be viable if obsolescence-prone so it is of the utmost importance to not sacrifice utility and esthetic values to various short range cost cutting temptations. This should be a structure designed to endure indefinitely, which means hundreds of years. It must be strong enough to resist earthquakes and the most severe of all other natural disasters. It should be designed in such a way that it can be renewable, refaceable and resurfaceable. This means that the tendency of places of long human habitation to wear out must be addressed. Having said this, the financing of such a structure should be amortized over a long, long period—a hundred years plus. Hopefully, studies giving this plan a concrete basis would show that this would be feasible.

A new town of five to ten thousand people plus would be capable of having its own high school, its own small hospital and larger manufacturing capability in the basement. With this in mind, this could either be approached by having several of these hillside structures grouped in a southerly facing arc of arcs.

### **The Grounds:**

Surrounding the actual structure on all sides would be an open space. Next to the structure itself would be the most intensively used human space—gardens and park-like facilities. I visualize an artificial lake or pond on the north side. There would be a narrow two-lane ring road around the last residential units. There would be a sense of continuity with the ring road delineating occupied from unoccupied areas. On the town side would be single family residences, not many but some. The people there could raise chickens or dogs or have private gardens, that sort of thing. On the other side of the ring road would be gardens and park developments. Some of them would be private plots for people who are interested in raising plants, others would be lawns, playing fields perhaps a small zoo, barns where farm animals are kept and raised. Beyond that, perhaps, a certain amount of open space. Beyond the open space is wilderness.

That wilderness, however, is not entirely wilderness. In it are some facilities. There would be camp grounds. There would be one or more chateaus.

The idea behind the chateau is that it would have permanent or semi-permanent resident family caretakers living there in modest apartments comfortably furnished like servants quarters. The main rooms would be elegant aristocratic residences with a ballroom, meeting rooms, ornate dining rooms with kitchens to serve them, drawing rooms. Upstairs would be luxurious bedroom suites with luxuriously appointed bathrooms and all the modern luxury conveniences such as saunas, hot

Depending on the surrounding urban milieu there would be northerly and southerly connections and indeed there would be a high degree of variability from one of these urban centers to the other. That was part of the charm of the idea to me as I investigated, in my imagination, the possible configurations that these hillside towns could take. I saw pyramids. I saw very naturalistic hillsides that were modeled to blend in with the character of the hills in the surrounding terrain. I saw very steep conical designs. I saw conical designs with anticlastic surfaces. I saw geodesic domes as the structure for the hillside. Other polygonal sorts of design bases could be used: hexagonal structures, interlocking octagons and squares.

An integral part of this concept is that these hillsides would be separated one from the other by surrounding farm, garden, and park open spaces edged with a strip of wild land. This became a very important, irreducible, part of the concept to me. I see, at least in all areas of the Western United States, a giving back of the land to nature. The way that this would be accomplished is that just as we have a continuous network of road and rail right-of-ways we should rebuild a continuous network of wild nature so that animals could have an unhindered pathway to roam throughout their traditional ranges. These pathways would tend to follow rivers and streams, ridges of hills and mountainsides. They would also tend to follow major transportation corridors so that all major transportation corridors would have a green belt on each side of them separating their noise and pollution from the countryside that they serve.

The density of any particular urban area would be about what a high density area would be in a city like Seattle, for instance, where the bulk of the houses are presently single family residences. The bulk of the houses would be, say, eighty percent in town houses and only ten percent in single family residences. There should be some single family residences for those who require a large yard for a specific purpose. Ten percent, or so, of the housing would be in apartments for people who are single, senior citizens, or who are mobile or transitional. These, of course, are provisional figures which would have to be worked out with some variation over time, and from community to community.

### **The Question Of Scale.**

The thrust of this proposal is to stimulate interest which would lead to the investment and the gathering of a group of people who want to participate in a first realization of this concept. For that purpose it seems that the smallest version of that realization would be most appropriate because mistakes and misjudgments will inevitably be made on the first try. Therefore, the scale which we will be discussing here is one of a small town of five or so neighborhood communities of roughly a thousand people each.

If all households were nuclear families and families averaged four people, two hundred and fifty households per neighborhood would result. If there were a normal distribution of age this would result in enough children to have an elementary school with class sizes between ten and twenty for each year. The elementary school is the primary determinate of the size of the community. First the size of the elementary school must be determined and then the size of the community is derived from that figure. A demographic study must be made to serve as the foundation for solving the problem of scale.

First of all, it seemed to me that the five thousand square foot suburban residential lot and the resulting land use pattern would have to be sacrificed if there was to be meaningful change. In Tucson, I saw the visual blight of the automobile related strip development necessitated by the sprawling new suburbs which contrasted sharply with the adobe and tile roofs of Tucson old-town and I realized with a great deal of sadness that I would never experience the charm and the livability of Tucson from the pre-war, pre-automobile-dependent years. This is the one thing which my design asked the American consumer to give up, that yard of lawn around his house.

When I moved to San Francisco and occupied a row-house it confirmed my idea of the row-house as the ideal human urban habitation. Later I was to live in Cardiff, Wales and in Rotterdam and Amsterdam in the Netherlands. The old houses and urban pattern there I found quite agreeable to my sensibility. What is compromised by the row-house is the sense of privacy, the sense of open space, and being surrounded on all four sides by the private garden that the single family detached residence possesses. However, in actual fact side yards tend to become narrow, useless and poorly lit spaces. The wood frame construction which is permitted actually allows quite a bit of sound to go through so that privacy factors are not really that absolute. And the row house does have a garden aspect to it though much smaller. In the typical San Francisco configuration, for instance, it is only in the back yard although in the San Francisco blocks the back yards often were not as aesthetic as they could be, being a jumble of wooden back stairs. I could see the possibility of private interior courts and indeed in Amsterdam and Rotterdam many of the flats have that kind of development.

So I'm putting people in row houses and yet I'm asking them to think of this environment as being ideal for them. How do I compensate for their perceived lack of space and privacy? First and most important is orientation. This means that there must be no north facing houses. They must all receive plenty of daylight so this is an orientation in which the houses are fanned out in a southerly direction (in the northern hemisphere) from east to west. Basically, then, in a semi-circle or a southerly facing arc. Second is that each house must have a view. A sunny outlook and an extensive view would create a basic environment attractive to most people. This would require a south facing hill of an appropriate shape which, unfortunately, nature provides only a small percentage of the time. Therefore, one would have to build the hill.

There are two ways to go about this. One is with earth sculpture. The other is a steel and/or concrete structure with open space underneath. I immediately saw that the second option would produce a space underneath the row houses that could be devoted to civic, commercial and manufacturing purposes. This configuration became the core of my imaginings.

The circulation pattern from the macro standpoint seemed to involve a main roadway or thoroughfare that went mostly east and west that would connect to freeways or whatever road system existed. I visualized this like a nerve cell with dendrites—the cell being on or under grade at the center of the community with the dendrites being roadways that provide the only access for large transport whether rail or trucking. To the extent that private motor cars were used at all they would be parked and garaged in that area.

## **THE GENESIS OF THE DESIGN OF A NEW URBAN PARADIGM--1993**

A question that I set myself was "Is it possible for American society to develop a city which will provide such a high degree of life value satisfactions that people will not feel the urge to indulge in all of this restless moving to and fro, throwing their family into the car and all of their possessions into a moving van to avail themselves of hoped for opportunities in some place a thousand miles away while leaving a garbage heap behind them? And to accomplish this while having a maximally efficient energy, time and materials use configuration so that sustainability and a greater degree of self sufficiency through all national economic and environmental exigencies could be predicted?"

### **The Design Of The City Related To New Social And Economic Arrangements.**

The populace would have to have a qualified birthright to their occupancy of such a city. Just as in a family, but one of several thousand people. The definition of home is, "when you go there they have to take you in". Everyone in this community would understand that it is basically their lifelong home. They may travel far and wide and eventually may settle elsewhere because they find a place they like better, or they've created too many enemies here or for many other reasons. But, normal people in the normal course of their lives would be able to gain all of the essential life values from such a place. This being the case, it would be the ideal place to institute the community Basic Economy concept described elsewhere. Cooperation of and capitalization from the government and business communities in the macro environment would be essential. The micro structure would also have to be facilitated by the enterprise community in a certain way. In a fully developed phase, however, the enterprises that fuel the private economy come and go but the necessities providers etc. would be there on a permanent basis and would be neighborhood related. All that has been said about the necessities community would apply as the basic economy of a given neighborhood.

### **Historical Basis**

Until the advent of the industrial revolution the forms of towns and cities were very similar the world around. They started out as a crossroads, usually by a river, where an inn was followed by a store, followed by a blacksmith, followed by a wheelwright and from these grew into a town and grew little streets and alleys usually in a concentric, spider web pattern out of the center. A church was usually at the center as was a central square with restaurants around it. American tourists spend millions of dollars each year just for a few days in the charm and livability of these cities, usually in Europe, which still remain.

With industrialization came the cities that we have today. There is no need to describe them: we live in them, we know them very well. We know the factors that make them very unlivable. The endless streets on a gridiron pattern, the pollution, the constant noise of machinery and so on. What this proposal seeks to do is to pick up the development of the medieval city where it left off, to give it a modern technological infrastructure with heavy biologic emphasis, with the greatest possible energy efficiency and with efficiency of human time in achieving desired ends.

### **The Design: A Townhouse Covered Hillside (Hollow House-Hill)**