

Short Paper for Ecocity World Summit

Richard Register, conference co-convenor, has written short essays to augment his talks at the Seventh International Ecocity Conference. These do not follow the particular words of the talks as the talks are from notes, not scripts. This one goes along with the Saturday, April 26 session with architects Paolo Soleri, Peter Head and Ken Yeang called "The Future of Architecture." These short essays are designed to encapsulate some of the more important thoughts in discussion.

Eco City Structure —from Land Uses Up

The future of architecture is in its expression as city structure, not just as buildings, and in its self-conscious ecological awareness.

Maybe there is a tendency to think transportation before architecture because we are animals on the move, not plants anchored in place. Foot traffic built ancient cities, to this theory, streetcars built the streetcar suburbs and cars built the scattered asphalt and gasoline, lawn and single-family house city of America today, spreading around the world and completely dependent on very cheap, concentrated and conveniently-used energy. The dynamic of that which was moving most – human, horse, streetcar or automobile – laid out the architecture upon a landscape designed to accommodate the main objects in movement more so than anything else. Not only did mind follow machine with little serious examination as to where it was going, it is interesting to notice that machine followed energy source and that energy source – today it's oil – is well on its way to scarcity and price inaccessibility, as this week's \$115 per barrel price attests. Finally the gluttony of the car for cheap energy is coming to an end and not only will the city of the car come to an end with it, so will happen either catastrophic collapse

of society or a far healthier way of building: ecocities. Likely we will muddle through, mind finally beginning to lead machines when we catch on that machines were following a disappearing energy source. But immense damage will have been done. Still, the best and biggest solution to climate change, Peak Oil and biodiversity collapse is architecture seen as the living body of the whole city. When so seen, we the species that makes things will have learned how to make our largest things well.

Back to being animals, but capable of putting down roots as well as scurrying about... What if we were more strongly place-oriented and wanted to get our built habitat right? Where would we place our foundations to last? How tall would the buildings be? Would they be interlocked with bridges so that people could walk on many levels or bicycle about at the fourth floor as well as ground floor to knit an extreme low energy city or town together? Would nature flow through as open instead of buried creeks providing for both plants and animals welcomed into civilized company? Which would ultimately be most important, animals or plants, movement or real commitment to place?

Ecological theory would suggest a balance, that we, to the health of all concerned, think about with the plants and animals serving one another equally in a dynamic balance slowly changing through evolutionary time. We should think like this when thinking of the architecture of cities.

The green building in the wrong place, forcing too much transportation, is an idea from the out of balance notion that starts with the assumption that transport will overcome distances and "green buildings" can be just about anywhere. Similarly, many people, environmentalists chief among them, believe a major solution to building better is to drive a Prius or plug in hybrid car. Then in good conscience you don't have to think about moving out of the single family, car-dependent home, nor think about building architecture on the measure of the city and the person

simultaneously. Maybe that's too much for the normal busy brain to deal with.

Again we have the fallacy of starting from transportation thinking, and behind it the assumption that energy will always be there – loads of cheap energy – to power whatever transport we need to get to our scattered buildings.

Enter a second ecological principle in addition to the one just mentioned, which was that a dynamic balance between rootedness (like plants) and mobility (like animals) is healthy. And that principle is that whole systems have a dynamic all their own. You might call it integralness – that all parts complement one another and are arranged in a logic determined by internal function and in reciprocal relationship to the other living and inert things in their environment. Whole systems, such as living organisms, have a completeness and function that is far better with all parts present and well arranged. This goes without much contest when you note a deer missing a leg or blind, even in only one eye, is likely to have a much shorter life than one that is whole. Human's intelligent drive for individual self-preservation and capacity for compassion has changed this dynamic among us, as we help our handicapped and they help themselves. But the rule is that completeness and "integralness" of parts is healthy. That's both internally so and in the "whole system's" relationship to the world around it.

I stumbled upon this comparison of the whole system of the organism in its ecological environment to the whole system of city in its ecological environment when I came up with the brief formula – slogan really – "access by proximity, not transportation." I was saying that you can build randomly or to "get away from it all" and connect with high speed and movement, which we attempt with cars and suburbs. Or you can build things close enough together that you can just walk around the corner and... there it is! The full variety of what the community has to offer. To have that kind of community, you need a fairly high level of density and diversity of function, and that is provided (or

denied) by the architectural offering in short distances. It is also provided by whatever open spaces and connectors are present – parks, creeks, open bodies of water, pedestrian streets, rails, bridges. Architects of the future should be thinking like that. Green cities first – *then* green buildings.

The lesson here is one of shorter distances between parts. Sometimes I think of it as the "anatomy analogy" because the living organism has an arrangement of parts at close proximity and in a logical arrangement. Again, in the organism as in the city, it is access by proximity.

Paolo Soleri led us all when he condensed the formula further and said, basically, 3-D good, 2-D bad. Life (and the city) is in the thick of it, not thin like a sheet of paper, three-dimensional, not flat. No higher organism is shaped like a tortilla. Tell that to the builders of suburbs, which, averaging houses at say 1.7 stories and lawns and driveways, streets and parking lots at zero stories, would probably give us a structure 10 to 15 inches high covering tens of millions of acres world wide.

Healthy height of that three-dimensional city we should be building is an interesting question and many say, "Make it four stories – that's human scale." I think human scale is the scale that would make cities work best in the three-dimensional dynamic and in *that's* relationship to a complex material culture (though not complex for the sake of irrelevant nonsense and production of actually poisonous and destructive stuff). Height of that 3-D city has to also be seen in relation to the natural world and human population in the billions. Steel is a great green material, supremely strong and can last forever if kept from rusting and can be recycled endlessly. But even the three-dimensionality of the architecture of the city must have limits drawn by how much building material – like steel – is used simply to support the higher parts of the city.

So now you begin to see the architecture of the future which, I'm offering, is the 3-D architecture of whole cities, probably in the 25 to 35 story range based on strength of materials and limits of energy into the long

term future, integral both internally and with its environment and supporting wildly varied and healthy natural biodiversity.

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