

Comments on the summaries from Ecocity Conference

First of all, I want to express my joy to be here chatting with all of these beautiful researchers and practitioners concerned with saving Mother Earth and Mankind from collapse. Sure all the papers add a lot to this goal.

I made up my mind to make a general comment on the summaries because as a sustainable architect, urban designer and planner I have realized there is a missing link that was not enough highlighted: one cannot create an urban ecosystem without dealing with the autopoietic nature of its underlying morphogenesis. Moreover without approaches that blur the difference between architecture, urban design and planning.

Of course Richard Register gave us a glimpse of what Paradise on Mother Earth could be!

This is the design process called the substance of the function in my ecodesign model! Indeed this is the place and time, the here and now where the designers team gets together and express their opinions, dreams and so on in a room or virtually through a collaborative aware software architecture! Richard did this perfectly well! So I hope you start realizing art is not mysterious at all! Especially when you have inspiring masters like Richard! Just mimic him independent of being an "ecosanitizer", a structural engineer, etc.

Indeed the aim of art, science and religion is to express the truth. Each one in his own specific way. The ecological knowledge being inter-, multi- and especially transdisciplinary foster unity in diversity. I hope my comments help to reach this goal.

In his excellent paper entitled *A virtuous cycle: productive ecostructure development cycles urban resources*, Sean Cosgrove from Session B brings to light the following of definition in a reference that highlights the basic resources that must be shared to foster sustainable development:

1 Eco-Efficiency Task Force Report, US President's Council on Sustainable Development, Washington, 1996. Defined as: "a community of businesses that cooperate with each other and with the local community to efficiently share resources (information, materials, energy, infrastructure, and natural habitat), leading to economic gains, improvements in environmental quality and equitable enhancement of human resources and the local community". From Peck & Associates, Toronto, March 2001.

This implies a notion of order as a sequence of successions. Although this is the common notion of order in Brown Agenda and the most familiar, it represents a serious hurdle to grasp a more encompassing vision of the current environmental crisis.

It ignores the macro-hierarchy of the cosmos that ranges from the conception of space-time, energy, quarks to the entities of the astronomy: planet, stars, black holes, galaxies, etc.

It also ignores that the bio-geo-anthropogenic level is a level of higher complexity than the level of the bio-geo-ecosystem.

This challenges the conception of sequential order.

Axel Dorscht proposes a human-centered definition of sustainable development that obviously tunes better with the notion of ecocity, because cities orbit around humans wanting it or not: sustainable development means to manage and sustain human existence in and as part of a changing universe that is constantly evolving. It means to develop the understanding and abilities to understand, manage and respond to experience, perceptions, feelings and reality and changing conditions to satisfy physical, mental and

spiritual needs of humans in evolution to keep physical and mental stability, balance and order.

Moreover David Closkey adds: a bio-region refers not only to a geographic site but also to a consciousness site – to a place and the ideas that have been unfolding about how to dwell in that place...

In *Ecosystems emerging: toward an ecology of complex systems in a complex future* (Ecological modeling, 62, 1992) the renowned ecologist Joergensen et al introduces the term *eco-system with hyphen* to denote an entity with its environment. Hence an eco-system is a unity of partition of the ecosystem to which it belongs momentarily. Such partitions work as sub-environments of the environment within the total instantaneous system. These partition the ecosystems and the ecosystems partition the biosphere. Hence the eco-system with hyphen defines the ecosystem and is defined by it!

Within this framework of mind, it is evident that one cannot talk about urban ecosystem without integrating sustainable agriculture and forestry into our ecocities. Indeed Sean Cosgrove puts forward that sustainable agriculture models mimic the energy pathways and cycles of nature.

Furthermore without considering humans as first class citizens of the urban ecosystem. And respecting discourse or the freedom each designer should have to express his/her opinion in terms of a shape solution.

I want to illustrate with some of the processes of my ecodesign model entitled *The model of primary, secondary and tertiary waves to design and plan sustainable cities* to show how one can blur the difference among architecture, urban design and planning (better felt in my contribution, because the process called repetition that is specifically created to link architecture to urban planning will not be emphasized here due to its complexity) and place the ecology of the behavior of the human being along the lifecycle at first place. Of course the geometric modeling inspired by the graphic artist

M. C. Escher and based on symmetry groups of the plane and the dotless plane will not be dealt here (see my homepage: <http://www.lsi.usp.br/~lourenci>).

Jacky asks in the summary for session F:

What level and intensity of public participation in waste separation is required to make an impact in urban household waste management?

Also why are ecological and decentralized eco-solutions less favored to traditional “collect and dump” systems?

She also adds there is a large number of failures in introducing composting at household or community level. Some of the reasons are:

- a) inability to maintain continued voluntarily participation of households
- b) no or insufficient financial incentives or gain to the households
- c) not compulsory to source separate wastes

The “use-and-throw away” attitude is becoming a symbol of affluence and good life in their modernization.

I would like to argue here and I hope I am not biased that the basic causes behind these failures involve exactly the human cognitive processes that are being disregarded.

The design processes that will be illustrated in the following figures represent the second articulation or the form of the function that is subdivided into two levels:

the semiological level and the semantic level.

Applying this to architectural design, specifically to the element of activities (the core concern of architects), the semiological level is characterized by the activities (such as sleep, move, eat, organizing and maintaining the home, relax, etc held along the day by humans characterized as stages along the life cycle such as baby, teenagers, grown up, old age, etc.

Let's take a look at the two aspects of figure 1 concerned with the form of the function.

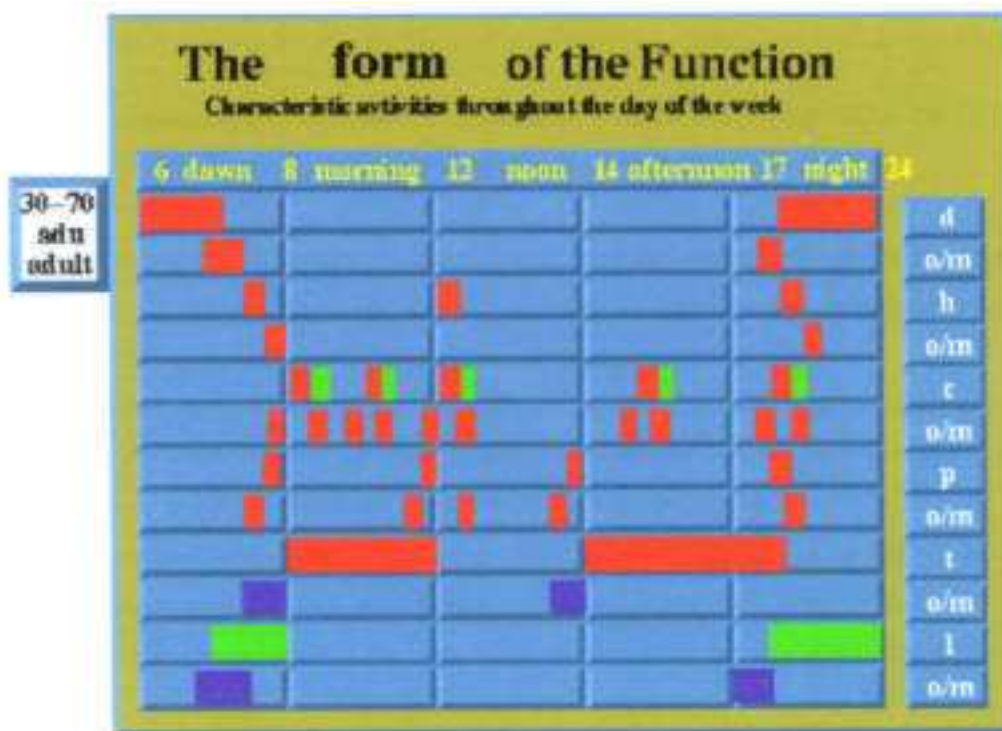
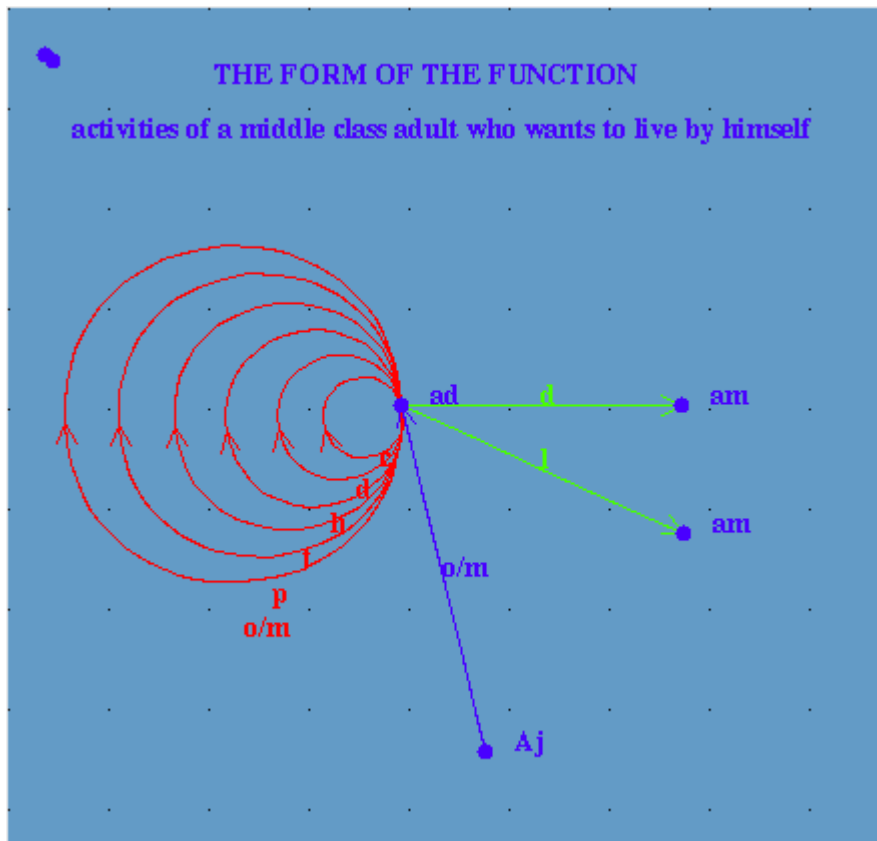


Figure 1a. The semiological level is characterized by the activities as well as with whom these activities are accomplished (Figure 1b)

Figure 1b. The sequence of activities accomplished by a human being along his/her life cycle is also semiological level. It can only be distinguished through graph theory. Here a grown up may sleep with sweetheart, meet with friends and need help to organize and



maintain eco-apartment.

Here the symbol o/m stands for organization and maintenance as well as the time necessary to accomplish it. It is involved with every basic activity of a human being independent of the stage in the lifecycle.

Hence to ignore this and propose systems that instead of diminishing time spent in organization and maintenance increase it, will necessarily lead to failure.

Imagine an automatic garbage collector for papers and powders swept on the floor. Or openings in the walls to ducts placed near sinks, sanitary vases where source separate wastes become a reality without extra effort in terms of time spent and money?

Figure 1b stresses that a grown up contacts different people depending on the activity. Of course this also demands time and energy.

However this does not happen in isolation and necessarily transcends the space of the home, penetrating the surroundings. The resulting network of activities and relationships belongs to the semantic level making clear urban design is also human-centered.

The semantic level visualizes this network of activities and relationships radiating from the home as its center towards the city. Then it is important here to trace the activities of the human beings as extending towards the city characterizing urban design.

Hence to outline how one goes shopping, walk around, drive, enjoys oneself going to parks, theater, movies, visiting friends, getting rid of garbage etc is part of the semantic level.

Curiously the process called the substance of the form accomplishes this perfectly well (Figure 2).

.B – biodigestor bc

– biofuel C –

– eating area Co –

– corridor D –

– adult sleeping area E –

– sport area Eg – sewage Es

– – ladder Et –

– entrance area F

– – sand filter fr –

– fertilizer H – local

agricultural area ir

– irrigation J –

– garden Ja –

– greenery in wall L

– – lavabo Hi –

– Hygienization Lg –

– lake Lz –

– leisure area N –

– nature o/m – organization and maintaining area P

– – circulation area Pg –

– gasoline station Pn – natural or built wetland Pu –

– cattle S

– – social area Se- living room Su

- - supermarket Sv -
- laundry T- working area Tc - agricultural land Te - terrace V - varanda

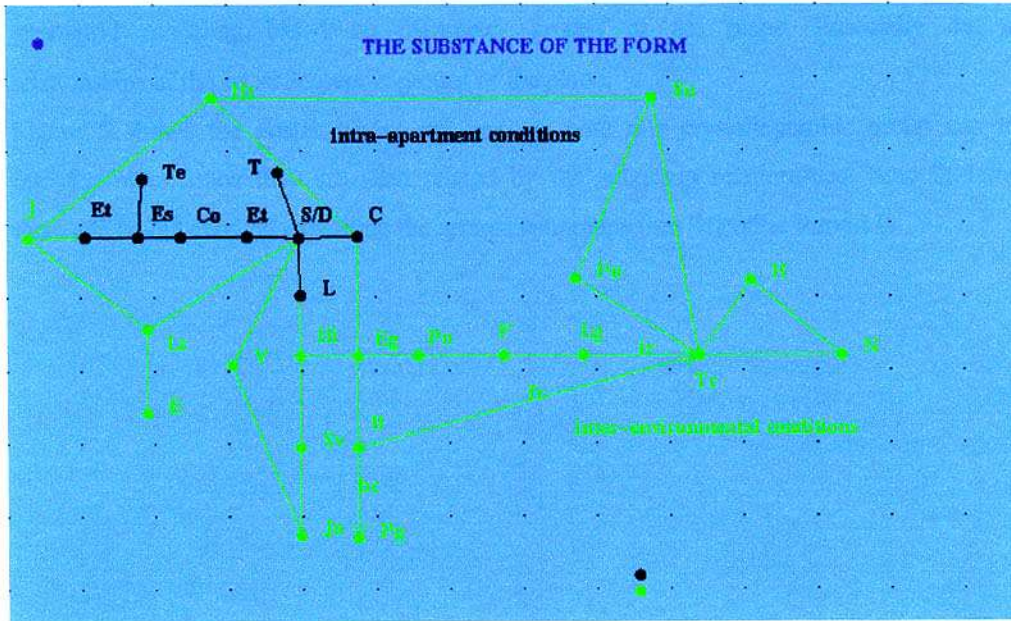


Figure 2. The substance of the form blurs the difference between architectural and urban design.

Of course since the ecodesign model is evolutive, it may be dawning on you that it is very simple to add Jacky's community gardens and Sean's urban greenhouses and aquaculture to the scheme to take advantage of the waste energy clearly highlighted here. This opens the gate to link this to eco-industrial networks integrating home and work.

It was necessary to introduce graph theory to make manifested the form of the function and the substance of the function.

To end I would quote our inspiring green architect from lovely Berkeley Richard Register: *The perfect symbol of what was stated above is the famous yin-yang swirls in a circle with a spot of the opposite in the center of each half of the whole –very powerful symbol for the ecocity's relationship with its bioregion/biosphere.*

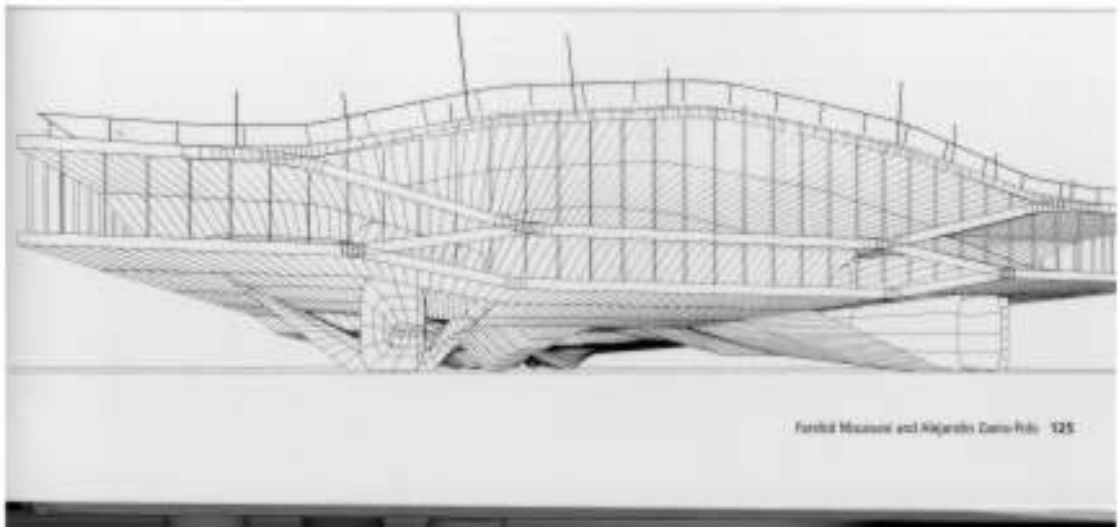
That's all! No, just enjoy the townlandscape or the landtownscape or better ecoscape from the harbour terminal designed by Farshid Moussavi and Alejandro Zaero Polo in Japan!



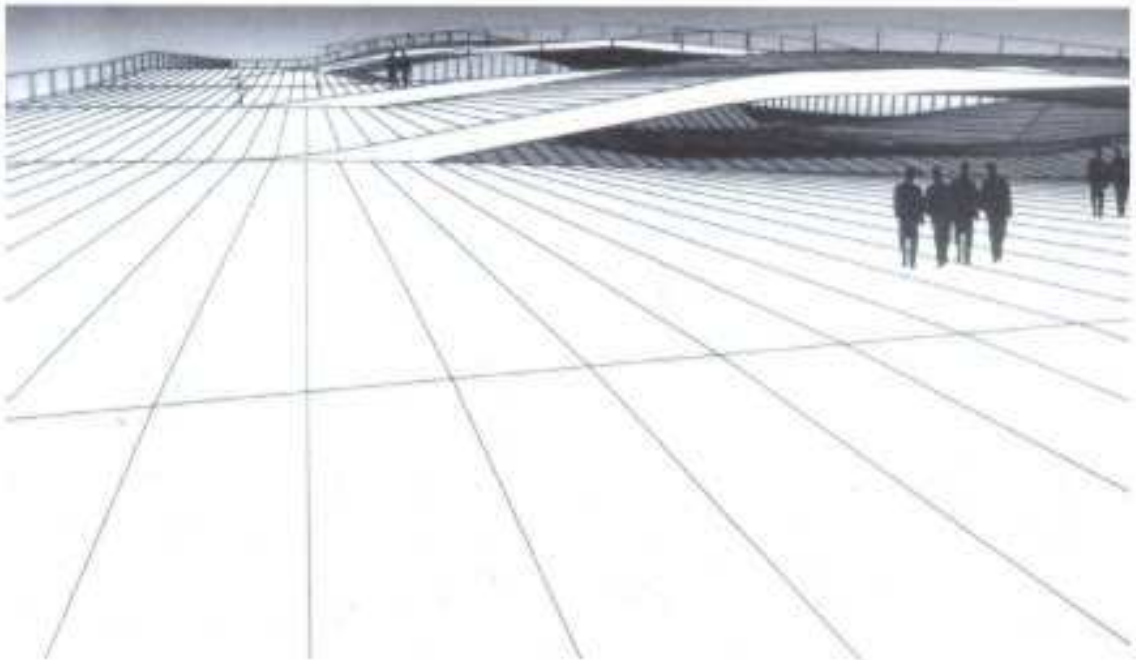
They grasp the best of Modern Architecture at its exponent :

A fusion of free plan and open form (no more walls) all designed by computer by the designers!

Here citizens and world travelers meet at will! This tunes perfectly well with Richard's summary and the wishes of session I Human Ecology and Capacity Building for eco-culture! Hope you are in agree! I am craving to hear your opinion during the thrilling discussion panel!



Fatih Muvviri and Alejandro Diaz-Pelo 125



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