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PROCESSUAL TYPOLOGY, A KNEW TOOL TO SUSTAINABLE HABITAT

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Abstract

The planet is getting urbanized following a rhythm were humans are losing control. This rapid and quasi total urbanization presents disadvantages at different levels; social, psychological, perceptual, climatic and environmental etc.

Due to the serious consequences observed in the world's ecological equilibrium related to the present urbanization model, a big movement towards sustainability is happening and getting stronger all over the world.

Our contribution in this general frame of sustainability concentrates on a particular aspect of the urban phenomenon: that is, its morphological expression

We shall demonstrate through this essay that typological knowledge can help improve reading-understanding cities, and thus, produce models which are able to "re-conciliate" the city with its territory, through the definition of new urban models inserting values; the insertion of the water as value with an impact on morphology for example, as well as energy and natural building materials.

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Introduction

Generally practiced in the city studies, theoretical models are often produced by economists and geographers. But to what extent do economic choices correspond to the way of balanced and rational organization of human actions, in the context of sustainability?

The complexity of human nature is such that it can not be considered in a scientific materialist perspective only.

Our generalized outcry about the degradation of our environment is expressed through observations and analyzes all the more rational, analytically measurable, scientifically provable methods, but our orientation towards any substitute is inspired by our deep poetic sense, always in search of the beautiful, vital clue in the spirit of synthesis of human beings.

The aesthetic sense is not optional, but rather essential because it allows to complete what human scientific observation describes. We are not talking here about "aestheticised" superficial attitudes, but rather about the deep sense of aesthetics, foundation of all human life, and measure of its journey within nature.

The aesthetic code joining man to universe is primarily moral, because looking for the good, and the beautiful, finally for balance. Good is necessarily beautiful because beauty is a perception index, then a judgment index, to allows recognition of what is right, that is to say, good.

Rational description can not be perfect, as long as some parts of the object of description, always escape observation, for one reason or another.

However, the human "machine" has about it a synthesizing intuitive ability, which can and who actually completed, an overall "feel" of the object in question, which is the reality, and that overrides description how detailed may it be.

The city phenomenon is an example of this human attitude vis -à- vis the acquisition – development of knowledge. In its immense complexity, the city leaves us little choice as to the adoption of the metaphor to explain its states, its dynamics, and its internal and external relations.

Using linguistic and biological metaphors, typomorphology, the discipline born from the Muratorian school of thought, developed concepts and a method that allows a rational approach to the reading of the city, providing the foundation for sustainable urban project.

The Muratorian School was once revolutionary, and what Muratori said as organized in a general outline, others could only express it as parts of the reality.

A disturbing and undeniable fact arises with the observation of the phenomenon "city" from a morphological point of view; it is the awareness of the constancy of parameters that form a set of verifiable laws in the evolution of the city, independently of the considered city.

The morphological dimension of cities seems to possess some structural constancy in terms of its growth projection on the ground.

It is the recognition of this constancy which gives rise to the new discipline called urban morphology.

This discipline is a branch of typomorphology which includes both the architectural and urban phenomena.

The thought of typological process could be expressed as follows: **the apprehension of material things in a continuum of forming and transforming, from a mature state to another through automatic adaptation to the new conditions that surround them, and are constantly evolving, constantly changing.**

Caniggia, disciple of Muratori, expresses this by the concept of symbiosis between the existing fabric and contributions that are made continuously in time; not as juxtaposed and added, but as new elements entering the system and modifying it, adapting simultaneously new data, thus forming a coherent whole.

With urban morphology, finally a manageable aspect scientifically based on the recognition of mechanisms of urban development models, through scientific observation and scientific approach method, allows us to minimize misguidance in some urban approaches based on individual inclinations regarding the «being" of the city. This simply means that this discipline is now reaching its mature phase, and thus produces new specialized branches itself.

The '50s saw a huge change in the morphological structure of cities.

The degree of change has become such that their management through urban planning and urban policies became necessary. Progressive transformations of cities, through a manageable level by successive stages due to technological developments and changing needs of the people, were now replaced by a radical change in the way to grow a city. So, the concept of metropolis had to be introduced to name the gigantic urban phenomenon which continuous development is witnessed today.

This metamorphosis or transformation of urban behavior first starts with what François Racine called "loss of urban now how», which appears first in the suburbs.

The suburban model is based on a loss of the intrinsic qualities of the traditional urban fabric. Indeed, if we consider the successive outskirts of cities, we find that there is some constancy, a balance in the urban fabric. Morphological basic structure is maintained throughout history, and during any civilization whatsoever. Morphological structure continues to exist in its "organic" expression to use Muratori's terms.

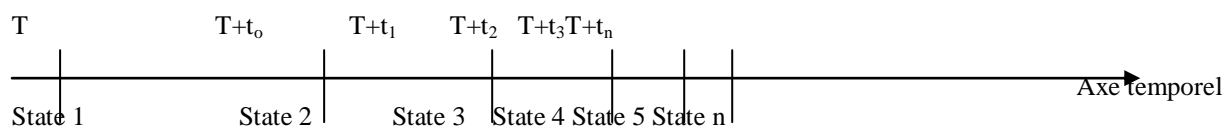
Still in his quest for knowing the "real" urban and architectural phenomenon, Muratori has launched a revolutionary form of architectural education, based on surveys done on the old fabric of the city, and a synchronic and diachronic classification of architectural types encountered.

Muratori came to define the city as a work of art, created by a community, through the centuries; The characteristics of ancient cities are unique in that they retain in their folds history and civilization strata.

Codified in this environment, the act of building becomes a gesture of spontaneous consciousness. The experimentation and accumulation of knowledge to face problems and new needs, or renewed with each generation, provide access to cultural capital, become part of the collective memory, which will induce spontaneous continuity in the act of building, as a result of a synthetic a priori knowledge developed by past generations.

We arrive with the Muratorian vision of the relationship building / time, to the consideration of the time taken by the "object» (the urban phenomenon) to evolve, and not the actual time of the observation.

The model of urban evolution developed by Caniggia is essentially based on transformations, that is to say the process of successive states of the urban phenomenon in time.



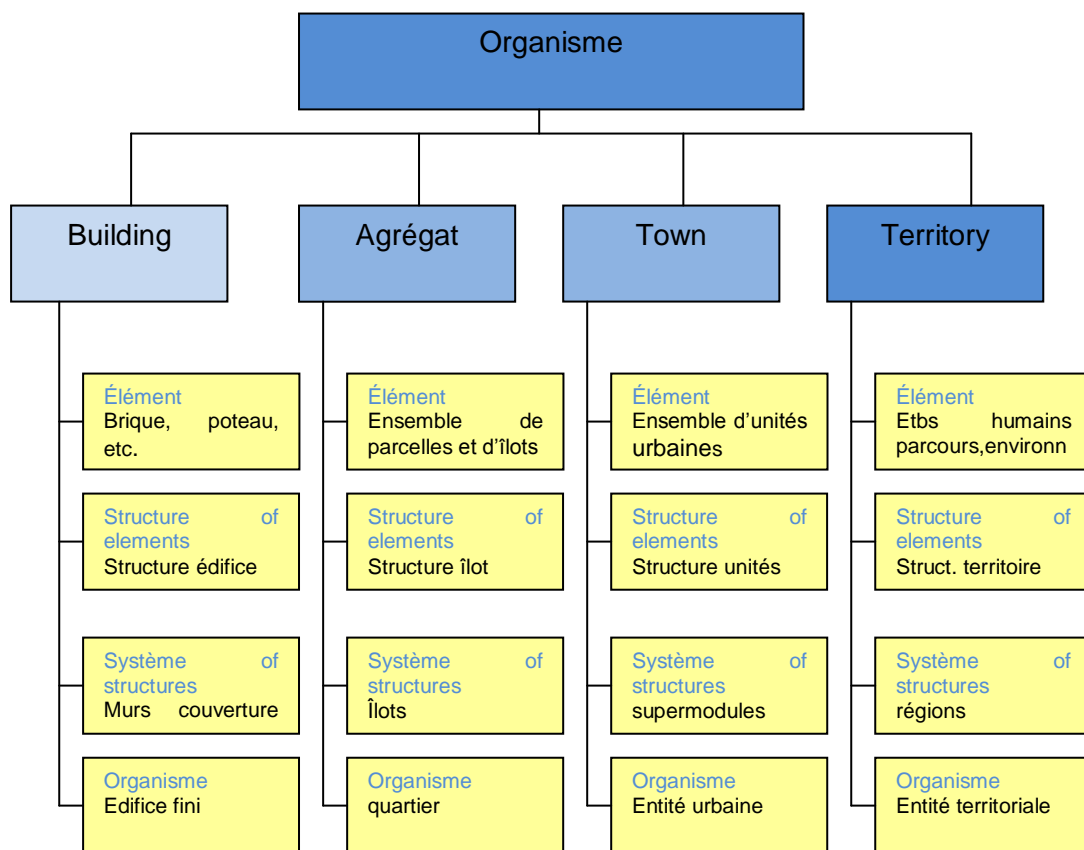
Caniggia, is interested in the transformation of the object, building or town, in time, not the time it takes for the observer to move around the object to discover it; this time evolution of an object being variable from one to another, for the same transformation.

The Cubist movement interpreted the last century, the relationship of the building to the time in the time it takes for the person, the observer to discover the object: it is the position generally accepted by all theories in a world where man has become the center of all things.

For Caniggia, it is not the time focused on the person who discovers the object, but rather on the object itself, the object "in itself", the time it takes to "be" and then 'to become', time which puts its successive parts on the object, generating elements of symbiosis.

Time relative to the object; this is the new interpretation of the model from time stance, formulated by Caniggia.

The general sense of the method of typological reading takes the same concept of organization at each reading scale.



Typomorphologic nature of territorial organisms after Caniggia's model.

Each element is in fact an autonomous body which in turn consists of elements, structural elements of system of structures.

Each previous state is the matrix that contains the following and transforms it, up to the current structure.

Our contribution was to add some "values" parameter with measurable physical morphological appearance.

These values are for instance "water", energy, building material.

Our proposal will be to insert in Caniggia's morphological model of reading-comprehension cities, parameters from the values quoted above.

Thus, the graphical model whose components are embodied in the four scales: territory - city - aggregate – building, represents , with ecological and landscape "values" parameter , the morphological dynamics of sustainable city and architecture,

Considering water: its use and recovery can become generators of a new design of architectural and urban typologies.

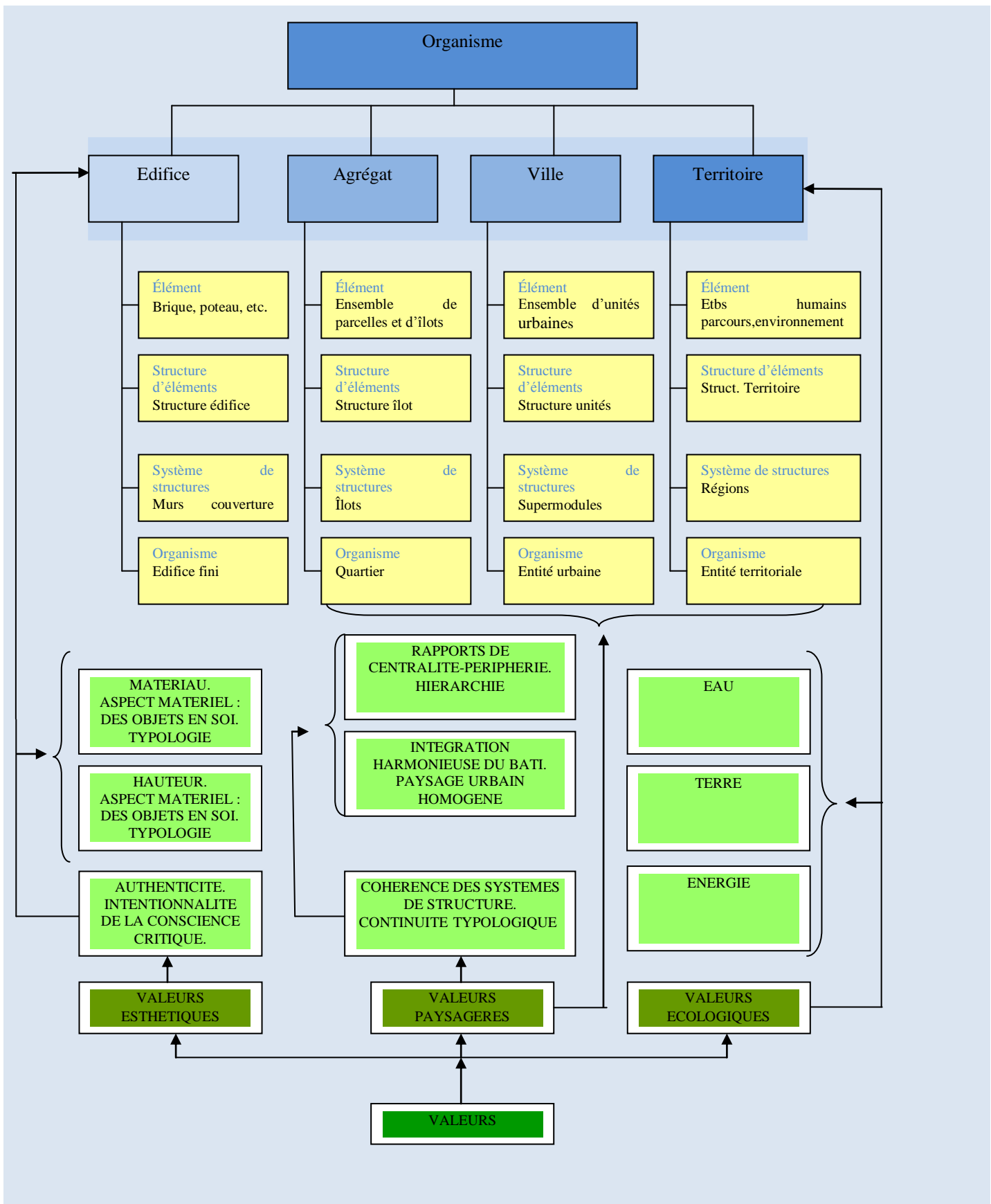
Recovery of rainwater should now form a constraint for housing design. It can be integrated as an accreditation element using transparent pipes, and be connected either to a pool in the yard or garden, or a tank which redistributes it.

The following figure of values shows how we propose the insertion of "values" to the corresponding scales of Caniggia's model.

Ecological values will be linked to the territory, landscape values of the three scales territory, city and aggregate, and aesthetic values will be connected to the building.

This model is a relevant tool in considering the totality of the structural parameters related to the project, be it architectural or urban.

ORGANIGRAMME DES VALEURS



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