

10° IALE World Congress, July 1-5, 2019,  
Milano, Italy

**Urban psychology:**

neuroscience, epigenetics and resilience  
as contributions for an ecological  
response to the Anthropocene

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# SENTIMENTS - 1

We intend to promote an urban 'cultural' planning that respects the human project of a city.

Currently the search for "health" is highlighted in every area, and therefore also in urban planning (indications of the WHO, etc.).

In this sense, a proposal for **URBAN PSYCHOLOGY** is activated.

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# SENTIMENTS - 2

Feelings are connected in their genesis with mechanisms that connect them to the consciousness, in the mutual bonds between the mind, the external world and the internal world of the individual, in respect of homeostasis, which according to Antonio Damasio, is the mechanism that allows conservation of the biochemical balance necessary for life.

**Antonio DAMASIO**, American neuroscientist, born in Lisbon, director of the Brain and Creativity Institute of the University of Southern California, author of fundamental research on the relationship between brain and consciousness, of studies on memory, on Alzheimer's and on the role of emotions in decision-making. His work as a researcher ranges from scientific research to cultural and thought history.

# SENTIMENTS - 3

Already Jung had guessed this reality, when in 1906, in "The affective complex and its action on the psyche" he affirmed that affectivity is the essential aspect of the personality.

According to Damasio, the roots of sentiment date back to the world of bacteria in the course of phylogenesis: they present chemical molecules that allow them to perceive the environment in which they live and react to it.

Evolutionarily remote organisms do not possess mental contents, but processes which are the "precursors of the mind".

# SENTIMENTS - 4

Feelings primarily identify, on the principles of pleasure/unpleasure, the state of well-being/malaise in our body, and subsequently, with the development of a central nervous system, the states worthy of creative effort. They are also detectors of the success or failure of cultural tools and practices.

From the neurosciences it is also indispensable to consider the interaction between the nervous system and other structures of the organism (intestine rich in neurons, etc.) that is the many **processes of non-neural transmission** that connect the body with the brain:

***from this activity and synergy spring fundamental emotions for the human experience.***

# SENTIMENTS - 5

Emotions and feelings are adaptive strategies implemented by the evolving subject (phylogenesis) in order to survive in his environment, achieving the best possible well-being, in a continuum that links organic homeostasis to cultural and social homeostasis .

# HOMEOSTASIS - "imperative of life": the omnipresent regulator of life in all its expressions (Damasio)

It is the mechanism inherent in every living being that guarantees that life survives and thrives, thus making it possible to project life itself into the future of an organism and of the species itself.

The continuous effort to maintain a dynamic balance between the body and the environment, in processes such as breathing and nutrition, involves ***a continuous positive and negative balance, whose expression on the mental plane are***  
***emotions and feelings of well-being and discomfort.***

# URBAN PLANNING - 1

From this it is evident that the response of emotions and feelings, in a positive or negative and even subliminal sense, is of extreme importance in every human activity, which, thanks to the universal mechanism of homeostasis in the living, always tends towards wellness.



# URBAN PLANNING - 2

Since the mechanism of homeostasis is what regulates both the present well-being and the projected project to the future of every living organism, the planning of an urban environment should take into consideration the ***consequences*** of its action in relation to the objective well-being of the individual and society, both in the present time and in its effects for the following years.

This also in relation to the fact that human memory is unique: unlike that of higher animals, human beings are able to remember the programs they do for the future, in relation to their present and their past, building themselves up a ***mental map*** that is unique and specific to human beings.

# URBAN PLANNING - 3

Consequently it is important for urban planning to investigate the reactions of individuals to the natural or anthropized external environment, and to the interventions on it, evaluating the emotional and even subliminal responses of individuals in front of it, in which the body is involved , with all the reactions of its systems (nervous, immune, circulatory).

These investigations are now available:

- both with the instruments that investigate stress and the increasingly profound knowledge of the body / mind / psyche relationship that have developed in recent decades, and
- thanks to neuroimaging equipment.

Please refer to the website [www.qualitaeformazione.com](http://www.qualitaeformazione.com) for an in-depth study of the methods applied in the research.

# EPIGENETICS - 1

It is very important for urban planning to address the problem of transmission over time of what has been done, since there is a *cultural genetic transmission* (epigenetics).

**EPIGENETICS** is the science that studies any genes regulation activity through chemical processes that do not involve changes in the DNA code, but can modify the phenotype of the individual or progeny. It has been found that there are mechanisms that guide the expression of the genes of successive generations, through the influences of the environment.

# EPIGENETICS - 2

The question of epigenetics is no longer "gene or environment", but rather how environmental factors act on genes, change them chemically and thereby activate them or turn them off.

# EPIGENETICS - 3

Epidemiological evidence increasingly suggests that environmental exposures early in development have a role in susceptibility to disease in later life. In addition, some of these environmental effects seem to be passed on through subsequent generations. Epigenetic modifications provide a plausible link between the environment and alterations in gene expression that might lead to disease phenotypes.

# EPIGENETICS – 4

From the above it emerges how important it is for the progeny (not only of 1st grade, but also subsequent), that the mother / environment does not provide stress, but care. This is in relation to the **studies and invitations of the WHO** that e.g. indicate in a better access to urbanized green a very important element to decrease or eliminate stress in the population, especially in mothers and in growing individuals.

It follows that *the responsibility of the planner* does not only concern the expression of certain architectural currents, but above all the livability of what has been planned.

# RESILIENCE - 1

**Resilience** does not mean coping, that is, mastering critical events (Murphy 1974). It is "something underneath": this means the motivation that allows human beings to behave in a way that makes a good relationship with difficult events *possible*.

It is the ability of human beings to master crises during their lives through personal and social resources, and to use them as an opportunity for development.

# RESILIENCE - 2

The theme of resilience enters urban and territorial planning by opening up interesting suggestions, capable of presenting a clear counter-trend to the "city that kills" (Corrado Beguinot). In urban planning we use the term "resilience" to express the specific ability to regenerate in a city struck by catastrophe.

To regenerate "the city that kills", which is however composed of human beings, it is necessary to identify what "kills" in the city, to be able to transform the deadly on the occasion of growth and change. Resilience, in the context of urban planning, is connected to the identification of resources in the urban context or in the anthropized territory.

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# RESILIENCE - 3

As a current example in relation to the theme of the resilience of a degraded place, we propose the experience of "Nocetum" in Milan

"**Nocetum**" was born as a result of the attention of Sister Ancilla Beretta for the degradation of the place, of which however she senses the positive potentialities of development of the site, anticipating the positive resources inherent in it, for the well-being of the population resident in the neighborhood.

Sister Ancilla had faith in the inherent resilience not only in every human activity, but **also in the territory**, even if degraded and inhospitable, she recognized its resources and became active in the realization of the project that from all this was born, in a creative action.

"**Nocetum**" can be seen as an example of the resilience of the territory with the activation of its resources, which goes far beyond the concept of resilience of the territory after a catastrophe. This is a concrete example of how believing in the possibility of recovering both the territory and the human group, and in the possibility of positive developments and achievements, has led to the planning and realization of an urban and social center, whose influence extends in terms of square kilometers.

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