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THE VOICES OF THE SUSTAINABLE CITY

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ABSTRACT

The city has certain voices that we must preserve. Some of them are totally masked by the noises of some work activities or hobbies, as well as goods being transported or even the same citizens moving around the city. The existing manufacturing machinery and the public private transport are most annoying because of the noise and vibration they cause. But the situation is changing and the sustainable city wants to put and end to the noise problem. Once we succeed, what will we call "noise"? What voices will be able to remain in our cities once the causers of the so known "noises" are eliminated? What will happen with the old and forgotten sounds of the church bells, clocks and factories? What will happen with the voices of guilds, schools and so many other activities of the human being? To sun up, what are the sustainable voices in the future our cities?

1 - SONIC EDUCATION

Since 1994 I conduct a course at the High Technical School of Architecture in Barcelona about "Acoustical Architecture", where poetical acoustics is a very important part. As I indicate in my book "*Acoustical Architecture, 1. Poetic*", the poetical acoustics defines the language (what we want for a sound or how we want sounds to be) in (and from) spaces. As an exercise, the students have analyzed many real examples of landscapes, in a building or in the city - specially Barcelona - in research of the essential elements of this language.

We have analyzed the forms, proportions, structures and materials which constitute the parts of the city from the building to the landscape design. They have found the early relations between sounds and the basic elements of the space for the application to landscape, the urban development and the architecture of Barcelona. With projectuals exercises the students can also apply it to the sound creativity in particular examples.

Since the course of 1994-95 when the study plan at the E.T.S. of Architecture in Barcelona was changed, I have imparted an optional course dedicated integrally to the analysis and the design of the sonorous space. The course is called "*Acoustical Architecture*", and it tries to study the art of creating, projecting and building the "*Acoustic Art*", to design the different sounds of the spaces according to the designers intentions.

The course contains three ambits of action:

- The acoustic poetics, destined to define the elements of the poetic language. I've dedicated many efforts to this poetic part, usually neglected in the acoustic treatises.
- The acoustic design, dedicated to mould this poetic in material and immaterial examples.
- The acoustic rehabilitation, which tries to restore the designs with wrong poetics, or the poetics with wrong designs.

2 - SOUND ART

Close your eyes and take a walk around your last designed building or garden. Do you can perceive the sounds in correspondence to the acoustical personality that you wanted for your spaces? Can you feel

the difference between sound at each space and identify it? If all the spaces sound without definition, we're making anodyne architectural in acoustics.

Where is the poetry?

The way to reach this aim is, first of all, to expose what they have analyzed of sound language in the architecture, urban and landscape design. In other works I establish the principles of the poetic language, with concrete applications, in accordance to the acoustical personality desired for the designer.

The acoustic space can be in accordance to:

- Spatial effect
 - Symmetrical – Asymmetrical
 - Centripetal – Centrifugal
 - Directional – Omnidirectional
 - Central – Perimetral
 - Global – Local
 - Dynamic – Static
 - Lineal – Punctual
 - Concentric – Radial
 - Filter – Barrier
- Activity
 - Exterior – Interior
 - Constant – Changeable
 - Work – Game
- Accent
 - Reverberant – Dead
 - Tonal – Atonal
 - Noiseless – Noisy
 - Exposed – Isolated
 - Faithful – Fictitious
 - Proper – Foreign
 - Indifferent – Suggesting
 - Neutral – Informative
 - Aerial – Corporeal
 - Monotonical – Emphatic
 - Attenuant – Amplifying
 - Concentrating – Diffusive
 - Masking – Loose
 - Individual – Collective

They have exposed the most important characters about sound impression of habitual users of any space. They explain the necessary relationship between spaces and their own and external sounds about landscape, urban development, and Architecture.

After that, they have explained the possible applications in the acoustic personality of each space according to space effects, activity, and acoustic tone. One of the most interesting aspects of the study is the tone of architectural forms, the proportions of spaces (establishing the gold architectural numbers and the musicality), architectonic structures, and finally the materials.

The last application is to define the designing tools for the indoors and outdoors acoustic itineraries. Furthermore, the analysis of the acoustical personality of the functions of each space is a basis for the Acoustical Itinerary Designing Method, in accordance to the specific poetry of the designing team.

I was proposed in 1990 for the project of making the Acoustical Park, as a model of scattering place, where the visitors can forget easily their noise-stress originated by the city. Such a park keeps a close relation between acoustics, architectural gardens and buildings equipment. Location, topography, surface extension, frame, zoning, equipments, furniture, etc. of the park, are defined from this acoustical point of view.

Moreover, the acoustical park was employed as a leitmotiv in the City of the Sound Project, where we proposed some parallel noise-control actions to the metropolitan area in order to achieve such considerations. This idea obtained the reward "Mar i muntanya" in the 1992 Barcelona Cultural Olympiad.

3 - THE OTHERS VOICES OF THE CITY WHEN THE NOISE IS ELIMINATED

1. Words
2. Nature & animals
3. Music
4. To listen me
5. To listen the others
6. Materials
7. Four elements
8. Guilds (bells...)
9. Transports (bicycles...)
10. Other future voices