ABSTRACT

Sea Organ and Greeting to the Sun are two projects developed by Nikola Basic in Zadar (Croatia). His research is finding a new way to promote the inactive and marginal space of the historic core of the city and change its urban identity. The project transforms the site in an essential place of everyday life, a key point where people can meet, socialize and relax.

We should not become victims of the unlimited possibilities of technology; we can use it in a project of contemporary architecture. The architect re-interpret human living needs and uses of space, but also does it by finding a satisfactory relation with nature.

Sometimes the effort produces unexpected results like a visionary project. This public urban space is playful and essentially and it works with the waves of the sea and the solar energy producing a stage enlivened from the sounds, the sights and the images. This project works on the boundary between the land and the water, but also between concreteness and emotional, and it translates the matters of the measure and of the architectural form in the language of the music and of the rhythm, generated from the natural elements.
1 | Premises

The topic presently inquired is the possibility of supplying new answers to man’s priorities as to the use of space and to the rising need for a more balanced relationship with space and nature.

Starting from such consideration Goran Rako, curator of the Croatian Pavilion at the 11th International Architecture Exhibition, has been introducing the projects recently carried out by architect Nikola Bašić for Zadar seashore. An overall assertion of modernity arises from these projects as to the means employed, thus highlighting architecture research as striving to outline new ways of building more suitable for present times.

It is to be noted that similar researches have been haunted the Croatian scene since many years through experimental movements inquiring the role of architecture - the main exponents being, among others, Penezic & Rogina.

2 | Introduction

Public space thus shaped connotes a playful and immaterial reading which is able to make the site extraordinarily effective. The project is based on natural elements as sea waves and solar energy. These elements are integrated to a technological apparatus in order to generate settings, sceneries and new spaces made up of sounds and images, ultimately giving new meaning and value to the site. Zadar, an Adriatic town rich in itself in historic heritage, has been further enriched by polarizing elements, though of a different kind.

It is through such specific action that it has been possible to turn that place, formerly unfrequented and located at the borders of the town core, into a lively site, into an aggregating point, into a crucial place to urban identity, as well as an attractive tourist spot able to re-launch and increase the value of the city.

Sea Organ & Greeting to the Sun are the evocative names of the two projects developed by architect Nikola Bašić, located along Zadar seaside and achieved between 2004 and 2008. Sea and solar energy are the players bringing to life what could be defined as a nerve centre in urban identity.

3 | Immaterial dimension - Alfred Hitchcock

Even though this area of the town in front of the sea has been since short time ago scarcely frequented and considered as peripheral, it’s worth quoting the words through which Alfred Hitchcock has been describing one of Zadar’s most peculiar traits:

In 1964, from the room 204 of Hotel Zagreb, thus he described the view on the seaside offered by the city:

“The settings of the sun in Zadar has left incredible strong impacts that have not faded to this day. As a huge and perfectly placed symbol that dips into the sea, the Zadar sunset is a magnificent scene that has outlived time. Distinguished globe-trotters travel writers bear witness, thousands of postcards of the setting of the sun from the Zadar waterfront give proof: the most beautiful sunset in the world can be seen and experienced in Zadar.”

Hitchcock is referring to aspects, so to speak, which are immaterial and nonetheless touching the viewer’s sensitivity and soul. It’s on these aspects that Bašić has worked, attaining something going further the bare valorisation and restoration of urban margins.

Both the projects developed for the seaside are able to combine the projectual dimension with scientific, technological, poetic aspects, also with an eye to the economic and urbanistic outcome and to the social dynamics that such actions set off.

4 | The site

Zadar is a town on the Croatian coast with an ancient urban history, it’s the fifth city in the country, having the most dynamic economy. Located in the middle of the Dalmatian coast, it has the ambition of being one of the leading centres from the point of view of tourism, thanks to the presence of a historic and archaeological heritage and to the quality of its natural surroundings.

The centre of the town is located on a peninsula that has been adapted to host the big cruise ships and allow the disembark of tourists in the very heart of the town.

In is in such a context that the action of requalification by architect Nikola Bašić takes place. The first project for this site involves the implanting along the sea promenade of an attractive staircase near the quay. The staircase produces melodious sounds originating from the energy of waves, thus offering alternative paths along the shoreline and inviting to rest or go down to the sea.

In conceiving and planning such a renovation, the architect is not a bare technician but a composer who’s able by
means of complex tools to act on human nature. As to the organization of the work, the project team included the architect and three consultants, one for acoustics, one for hydraulics and one for music. After being presented to Zadar harbour and city authorities in 2004, the project became a “case study” worth to invest on, until reaching in 2005 its achievement. After that, the second project entitled “Greeting to the Sun” began to be outlined. Here the technological aspect is much more prevailing, yet the premises to the idea are the same in dealing again with the project as the valorisation of natural resources on the site. This project completes the pier-head of the peninsula, where ships dock, connecting not only physically to the previous project. Actually, the two projects operate in synergy according to the different hours of the day.

4.1 Benches and promenade, (Ph. S. Rossetti).

4.2 Stairy promenade with Sea Organ, (Ph. S. Rossetti).

5 | Sea Organ (2005)

It’s a staircase realized in stone descending to the sea and located close to the new quay; its stands as a sort of musical score played by water. It develops on 70 meters and into 7 sections, each of 10 meters, while at the bottom 35 plastic tubes are installed as partially immersed under water. The compression caused by the water contained in the tubes owing to the movement of the waves forces water to go up along them, compressing the air and producing sound. These are in fact 7 tunes played into 5 tones, the ones required in the Dalmatian tradition of Plainchant. The sound thus generated emanates in the environment through the holes positioned inside the stone stairs. The peculiar melody generated by the Organ Sea is a sequence of tuned sounds which are the result of a precise study and calculation of the pressure exercised by water, of the diameter, length and number of the tubes obtained under the stairs. Yet there is a uncontrollable factor: the movement of the waves determined by water, wind and ships may produce a potentially infinite and unexpected concert played by nature. The sea organ evokes the stories of the old people inhabiting the coast and telling of subterranean tunnels - today broken down - connecting different spots to the surface. From such net, peculiar sounds emanated presumably produced by the wind and comparable to chants. The shoreline where the sea organ is installed takes a North-South orientation, while the west border of the peninsula, due to its shape, is the focal site where waves are generated. In addition, the channel dividing Zadar from Ugljano island, around 4-5 kilometer long, is crossed by a rather intense maritime traffic which generates waves almost all of the time. The tidal range is not significant indeed and rarely exceeds the 40 cm, while the “long wave” phenomenon takes place, most of all with good weather, which grants a continuous flow on the water surface.

The staircase depth is equal to 8 steps on the North-West side and tapers at South-East decreasing to only two steps, furthermore the deepest step is located more in depth and always submerged under water. The function mechanism requires a horizontal plastic tube partially immersed under water, then the tube goes up diagonally and then again horizontally reducing its section. The movement of waves causes the compression of water and this latter in turn compresses the air. The narrowing of the tube produces a higher pressure on air so that this gets out of the plastic tubes as a sort of whistle. All this occurs under the level of the promenade and using a channel which amplifies the sound then propagating in correspondence to the steps’ holes.

The dimensioning of this sort of over-scale musical instrument has involved hydraulics, pneumatics and acoustics, furthermore the quantity of DB produced has been taken into account, considering the fact that the nearest house was only 55mt far. As the parameters affecting the production and length of the wave movement are exceptionally changeable, each time a new melody is obtained.

It is the aim of the project to stand to the town as a musical attraction on an urban scale evoking the local choral tradition. Sea Organ project has been awarded in Barcelona (2007) with the European Prize for Urban Public Space and both projects have been exhibited in 2008 at the 11.a International Architecture Exhibition directed by Aaron Betsky, “Out There – Architecture Beyond Building”, the title itself implying the exploration of and the attention to the activity of planning and its outcomes rather than the concreteness of construction.

AnTe Liu, Penezic & Rogina, Philip Rahm, just to mention few, are involved in highlighting how we can shape environments through technology, and not necessarily through buildings, which are able to convey wealth or ease by means of inducing particular behaviours on us.
6 | Greeting to the Sun (2008)

Greeting to the Sun is a round disc with a diameter of 22 mt with a trampable glass surface and coplanar to the stone seashore. It’s a display turned on by night through a set of lights which are produced by 10,000 bulbs that are in turn powered by 300 photovoltaic panels. During daylight, solar energy is appropriated by the panels and converted into electricity, the latter being reversed into the distribution net and producing about 46,500 kWh per year. As with the “Sea Organ”, which by means of appropriating energy from waves produces sounds and turns it into melody, likewise the “Greeting to the Sun” by retaining the solar rays and their energy, brings the disc alive and enlightens the seashore.

One of the real outcomes is, for instance, the fact that thanks to this process of energy production through renewable sources the cost of the energy usually needed to enlighten all the area is equal to a third. At sunset, the round surface is turned on to generate light compositions as a sort of symbolic dialogue with nature. Greeting to the sun is an apparatus able to radiate light in various colours and intensity, able to send messages, produce signs, write words. It’s possible to come near and walk on the surface merging into such exhibition of light, feeling as if walking through an immaterial environment or swimming in water or as if the sole was moving under the feet. On the ring, rotating when the “Greeting to the Sun” is turned on, the names of 36 Zadar’s saints are written as well as the coordinates of the sun position in the days of the year.

The inscription on the ring mainly recalls the organization of San Grisogono’s calendar based on the solar system model. This calendar, conceived in Zadar and found in 1964 in the Bodleian library in Oxford dates back to 1292 or 1293 and is among the most ancient documents of the kind existing in the world. It is probably the first document where astronomic information are written in Arab. A part of the calendar informs about the days and the names of 36 saints, while the part on astronomy shows the sun ephemeris, the planet coordinates and their angular distance. “Greeting to the Sun” is connected to the “Sea Organ” through a computer in order that at sunset the sound is turned into images and so as to establish a relation between these two elements. An impressive and extraordinary play of lights following the rhythm of waves and sound take place.
7 | The Limit

When we deal with architectural topics, it is often normal to coin new or attractive labels, and indeed the attribute “amphibious” applied to architecture seems to be referring to this practice.

Looking more closely, this is in fact a fitting term for the present case since the projects in Zadar reveal their real quality and come alive when working on the boundary between ground and water, between natural and mineral environment, i.e. between the world constituted by water, wind and sun and the one constituted by stone and silicon.

Nothing forbids to make the projects alive as unbound to the natural context, they would both indeed survive even though the poetic vitality would be compromised.

It’s mainly on the concept of limit that it is worth to reflect on, in that even if architecture is a well-known language only few have the privilege to fully comprehend it.

In the text written for the presentation of the Croatian pavilion, Željka Čorak quotes Borges and his perception of the leopard fur as a written text.

Ironically, in his text “The place where the endless meets the definite”, Čorak underlines that the progress of a city can be measured through the quantity of stars which cannot be seen anymore owing to the quantity of light radiated by the city itself or the quantity of noise which invalids the perception of silence.

The alternative to such scenery is darkness and the sound of wind which the inhabitants can recognize as particular sounds.

With regards to these upsetting aspects, we search for protection by means of an excess of technology and by means of creating a sort of virtual alternative. The aim of Nikola Bašić is to reconcile these two worlds, that of certainty and limit and that of uncertainty and infinite.

This urban action matches the dimension of space to that of time and sound and makes person rediscover the stage of contemplation and rite. Those created by his project are unique and unrepeatable light compositions. The parameters and the methods here used are established by the designer according to external natural forces, in the same way as Lebbeus Wood’s projects have been influencing contemporary architecture and introduced external forces and energies as guiding lines and interactive elements into the project.

Bašić’s action is certainly a successful exercise: it modifies the relationship between the city and its margins by moving the attention from the Roman mathematical space – the reason’s space – to an unusual architectural space built up through sensitiveness and physicity.

The organ is a sort of keyboard made out of the steps and played by the waves produced by Jugo, the local wind blowing from South, or by the passing ships, while the “Greeting to the Sun” processes and translates sound into digital animation - and it is significant to note that Zadar has been exactly the town to promote at the beginning of the 70s digital art generated through computational systems.
Zadar seems to have developed a deep culture of public space along history. The projects realized on the seashore, besides promoting the development of urban culture, are installations with an added artistic meaning and part of a wider reflection - that is a project for the re-launch of tourism. This is proved by facts since immediately after their realization the site has become a place much crowded by residents as well as a main spot for tourist visits.

In a context essentially uncaring of the issue of water scarceness, there exists the interest to bring value to this element in all its aspects and potentialities.

Developing awareness on the value of this element is a process linked to the project. Those spaces which are now crowded public areas prove to be at the same time places where to recall our human dimension, the use of time according to different rhythms, contemplation, and where to approach again nature so as to give new value and significance to it.

The theme explored in Zadar offers a reflection on water issue and in general terms on natural resources in contemporary world, this in a context where emergency situations or crisis are not occurring but rather in a place where such resources are probably disregarded exactly because of their presence.

The projectual effort implies the synergy between different professional figures in order to outline applications and solutions, which being included into the architectural project might highlight the role water and renewable sources can have.

notes
References


