



Presentations

Does the butterfly effect exist in architecture? Is it possible to re-establish a place with a single architectural act?

XYZ Public Space

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Suburbanization

The presented project copes with the global problem of dense buildings' development, overpopulated districts, where at first sight nothing is possible to be built and there is no opportunity to add some life to the urban tissue. This is a typical situation for many cities of the "third world" as well as for huge urbanized regions like Buenos Aires, Mexico or even highly developed Tokyo, which is a consequence of the phenomenon that took place several dozens of years ago, called suburbanization.

Industrial progress and the opportunity of finding a better quality of life resulted in a rapid increase in population in many urban agglomerations. This occurred on a massive scale in the 19th century in Western Europe, mainly after the industrial revolution in Great Britain in the 18th century. Currently this process is still seen mostly in South-Eastern Asia (China, Thailand), in countries of Middle and South America (Argentina,

Mexico, Brazil) and in Africa. Numbers speak for themselves: Buenos Aires alone is inhabited by approximately 30% of the whole population of Argentina. This enormous urban machine has nearly 14 mln inhabitants, where only 4 mln live in safe districts and the remaining 10 mln in slums. The same situation is observed in the capital of Mexico, placed as the third, soon after Tokyo and Seoul, agglomeration of the present world. Officially 3 mln people are settled in the poor district, off the record much higher numbers are mentioned. Apart from South America there are other regions with similar problems: for example Calcutta and Bombay where 25% of the cities is slum area.

In these circumstances is humanitarian architecture still possible to obtain? Can architecture, in general, be a factor that reactivates an impaired place and fills not only a gap in buildings but will also initiate future changes?

XYZ Public Space

Every public space, such as: a square, garden, street, backyard or green place, is always full of life and energy. Even in antiquity Vitruvius (Witruwiusz) understood the significance of public places, describing them in an essay as the heart of the city. That is why in a project public space is used as a trigger point: it reactivates for-

gotten places, brings a new value and attracts people (Fig. 1).

The XYZ dimensional structure is a sort of a system creating a building in extremely dense conditions, where the small building plot does not seem to be sufficient to hold a vast public square. A flat area grows up to the three



Fig. 1 and 2. Public space XYZ. Structure – the concept
 Il. 1 i 2. Przestrzeń publiczna/wspólna. XYZ – koncepcja

dimensional form. Z – The third dimension – brings a new value to the space and allows placing a plot of 5750 square meters into an area almost ten times smaller (550 m²).

The XYZ building is made of one whole piece of paper. Cutting and curving in three dimensions, without

breaking it, gives the possibility to create a pure form, with different rooms and interesting areas. The project searches for an architectural structure in itself: it does not want to dominate; it tries to be cohesive, independent and universal.

Out of a single sheet of paper

The project is produced from one piece of paper, like a rolling square, which becomes a three-dimensional public space (Fig. 2). The fact that it was made of a single piece of paper without tearing it, on one hand is symbolic and proves that the designed square has not been broken and has been successfully placed into a far smaller plot. On the other hand, it creates a spatial object where functionality fills up the whole interior, not only floors but also walls and ceiling.

The applied system of working with only one element enabled obtaining various changeable sections,

due to cuts made in many different spots and the opportunity of bending it in all directions. This resulted in not only an interesting architectural effect, rooms different in proportions, measurements, height, length or width, light and shadow but also allowed obtaining something that seems to be impossible – open and common space although with a vast number of floors and different functions. According to this, the building becomes closer to the idea of creating a commonly accessible square, regardless of the fact of being limited by walls and ceilings.

Localization

Wrocław is one of the oldest and the biggest cities in Poland, situated in the West side of the country, close to the border with Germany. Every year the population rises because of the huge number of students, young companies and new investors from every part of Europe. This increase of citizens and investments brings an economic and technological development of the city and provokes changes in urban planning and new challenges to architecture. The most popular place for all kinds of modern investments is, of course, the old part of the city. However,

the high-density buildings and not many free spaces do not leave many possibilities. On the other hand all those dead zones and unused spaces have a great architectural potential and can activate forgotten places.

The building is located in the most dense part of Wrocław (Fig. 3). The small size of the building plot does not allow designing a wide public square, that is why it is necessary to use the third dimension. It is an example of how to solve the problem of extremely dense urban structures.



Fig. 3. Perspective view – Oławska Street, Wrocław
 Il. 3. Perspektywa – ul. Oławska, Wrocław



Fig. 4. Perspective view – XYZ Building

Il. 4. Perspektywa – budynek XYZ

Building

The project occupies the entire building plot and it is totally integrated with the surroundings. The ground floor is a free space with four accesses (3 public and 1 private) its open character allows to organize the space depending on the necessity and purpose of the customers. It can be used for example as a market, concert hall or open air exhibition (Fig. 4).

The materials used in the building are connected with the main idea of the project, to design a multifunctional

and three-dimensional public space that re-establishes a place.

They are classified into three groups: 1. Materials that can be found in backyards, streets, and public squares, such as: paving, prefabricated concrete, asphalt, bituminous concrete, wire netting, etc. 2. Green materials, such as: short and tall grasses, ivy or moss. 3. Materials connected with light and shadow: glass panels with different transparency of light, milk glass, etc.

Function and Section

The project is a multifunctional building. It offers an independent structure, which allows placing in it various public spaces as for instance restaurants, coffee houses, recreation and cultural centers. The functions are mixed to obtain an even distribution which gives a cohesive whole. All sorts of spaces presented inside the object are based on everything that can be met in the streets, backyards, playgrounds, squares and parks.

Communication is achieved by using two vertical communications routes, where there are staircases, lifts and independent stairs (which run across the whole building and allow us to cross from every single spot to another

randomly chosen). This facility has been fully adapted for disabled people. Owing to two lifts and the combining of three storeys (on levels 0.0, +9.5, +16.5) they have access to every part of the building.

Various sections and gaps formed between storeys combine separate floors visually, allow smells and scents to flow freely through the building, also the sound of children playing in playgrounds, or a ball bouncing in the basketball field. This fact additionally binds together the interior and emphasizes its open and public character. Therefore, the project can be examined as a vast space, combined with sounds, smells and scents, as well as with light and shadow (Fig. 5).

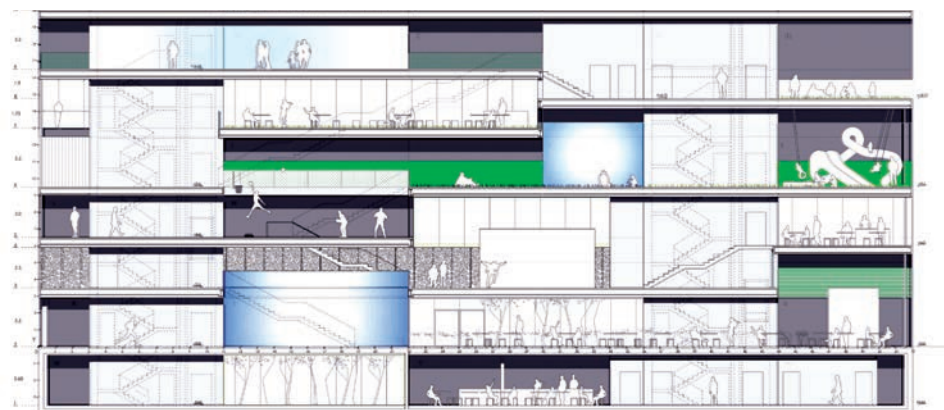


Fig. 5. XYZ Building – longitudinal section

Il. 5. XYZ – przekrój

Czy efekt motyla jest obecny w architekturze? Czy punktowa architektoniczna interwencja może stać się impulsem aktywowania martwej tkanki miasta?

W prezentowanym projekcie autor skupia się na globalnym problemie przeludnionych przestrzeni i gęstej zabudowy, gdzie na pierwszy rzut oka niemożliwa wydaje się jakakolwiek interwencja architektoniczna. Jest to typowa sytuacja dla wielu krajów Trzeciego Świata oraz wielkich aglomeracji, jak Buenos Aires, Meksyk, Sao Paulo czy Tokio, będąca konsekwencją zjawiska zaobserwowanego na skalę masową w XIX w., zwanego suburbanizacją.

Struktura XYZ jest systemem projektowania przestrzeni publicznych w warunkach ekstremalnych, gdzie mała wolna powierzchnia nie pozwala na umieszczenie rozległego placu miejskiego i konieczne staje się sięgnięcie po trzeci wymiar – Z. W przedstawianym przykładzie plac publiczny wielkości 5750 m² został skompresowany do działki prawie dziesięciokrotnie mniejszej (550 m²).

Budynek XYZ stara się być motorem napędowym reaktywacji zaniedbanych, często opuszczonych i niebezpiecznych części miasta. Podobnie jak każdy plac miejski jest wielofunkcyjny. Oferuje niezależną strukturę, która pozwala na umieszczenie w niej zróżnicowanych przestrzeni publicznych. Swą multifunk-

cyjność wzoruje na ulicach, placach, skwerach, podwórkach i parkach.

Ta swoista trójwymiarowa przestrzeń powstaje z jednego kawałka papieru. Przyjęta zasada pracy z jednym elementem umożliwia uzyskanie przekrojów zmiennych i zróżnicowanych, dzięki cięciom w wielu miejscach i możliwości zginania we wszystkich kierunkach. Daje to efekt nie tylko ciekawej architektury, pomieszczeń różnych pod względem proporcji, wymiarów, wysokości, długości czy szerokości, światła i cienia, lecz pozwala także na uzyskanie czegoś, co wydawałoby się niemożliwe – przestrzeni otwartej i wspólnej pomimo wielu pięter i rozproszonej, odmiennej funkcji.

Pod tym względem budynek zbliża się do idei ogólnodostępnego placu, bez względu na fakt bycia obiektem ograniczonym ścianami i stropami. Proponowana architektura szuka wartości samej w sobie, w swej czystej strukturze i formie. Stara się być neutralna, bezskładowa, pozbawiona hierarchii, odbierana jako jedna, spójna masa. Szuka relacji między zewnątrzem i wnętrzem, zamknięciem i otwarciem, ciemnością i światłem, transparentnością i nieprzepuszczalnością, górą i dołem, szuka relacji między przestrzeniami.

Key words: butterfly effect, high-density architecture, urban square, three-dimensional public space

Słowa kluczowe: efekt motyla, gęsta architektura, plac miejski, trójwymiarowa przestrzeń publiczna