POLYTECHNIC OF TORINO
FACULTY OF ARCHITECTURE
Degree in Architecture
***Honors theses***

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**The BigApple in Manhattan**
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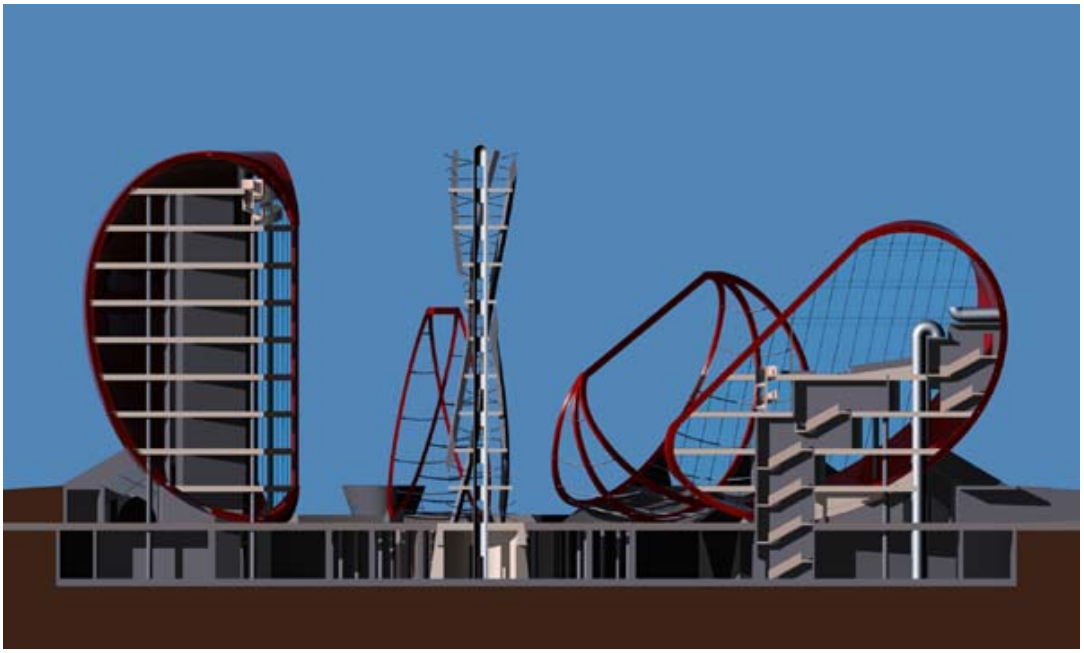
**The big apple**

To tell New York is like speaking about the world. It is the stereotype of the "modern" city , the pure synthesis of how much there is of positive and worst in the west.
New York is the only city that we can define capital of the world. Before now, the history had only granted to Rome this privileges.
New York is the Rome of aim and beginning millenium, its skyscrapers represents the new basilicas of money, the modern colossei of pleasure, the centers of the new world-wide order.
New York is excessive. Its population is excessive. Here there is always someone that has struck all the records for dimensions, wealth or speed.

This existing in exageration creates every day new symbols that represent the freedom once, another time the power, another the degradation, another still the world. And they are, one statue, a skyscraper, a quartier, the center of an international organisation. They are many hundreds and they always increase .
These symbols represent a city which is extraordinary, unic, "mega" for excellence and, at the same time, they contribute to increase the story of the world capital that everybody knows as "The Big Apple".



**The structure**

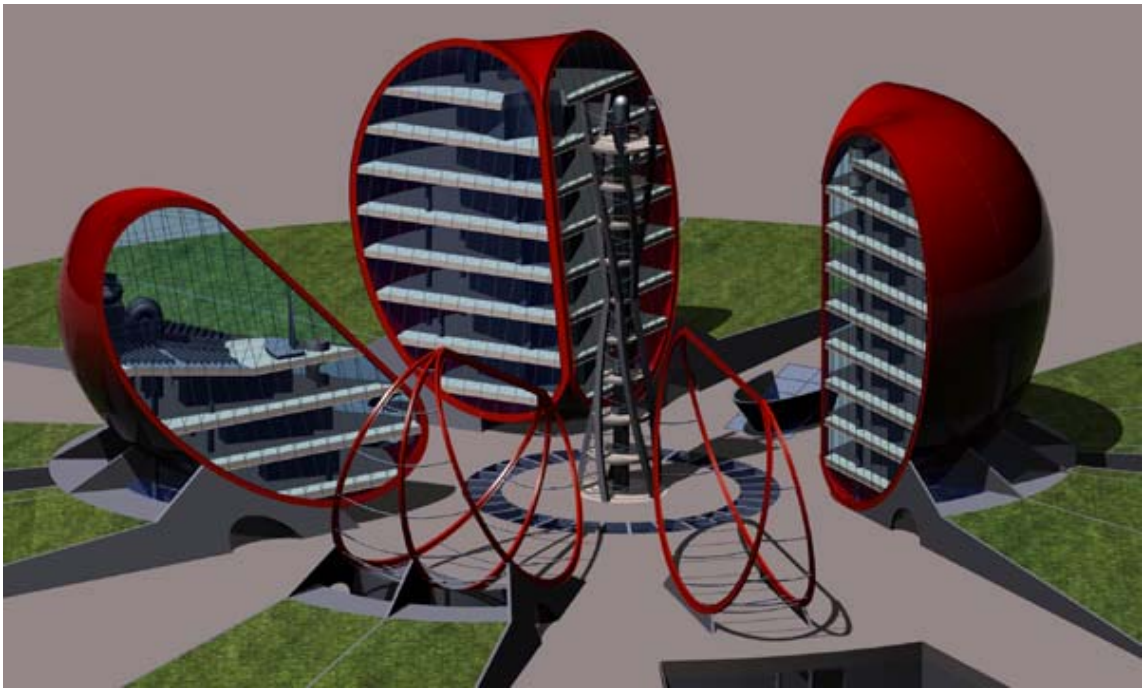
The Big Apple is articulated in five pieces, that by the diminishing of the number of the constituent modules, increase their inclination regarding the vertical of 22.5 degrees.

The serial basic element is a double steel T ( 100x40 cm), that develope for fifty meters in height and 28 in width, tracing the profile of a sliced apple, wrapped by concrete for a more fluid shape and to prevent problems legacies to the antifire law. They turn around their own axis of 24 degrees and they are held togeather by crossing steel circles with a diameter of 20 centimeters.
Every building therefore, stands on concrete arc basement that unload the weight to the foundations. The concrete pillars have diameter of 80 centimeters; the developement of the vertical distances, containing the hygienic services and the stairs, following the line and the spin of the pillars, is built in reinforced concrete like a double curving tapered solid.
Of difficult positioning, the elevators, now in the middle, now on the side, have circular section and are transparent, with one thin steel structure to round a bent crystal.

Winding staircases of approximately two meters goes up slowly from the penultimate one to the ultimate floor, dealt as a loft with visible lamellas left to create a turned atmosphere, like the skeleton of a great whale.
The "skin" of the apple is sustained by a light curved rafter also useful to maintain the curve between the lamellas.
The cover is built in metal sheets, eventually titanium, like those used for the first time in architecture in the Guggenheim Museum of Bilbao, planned by Frank O'Gerhy.
To conclude the outer building cover there are transparent walls in double thermal crystal, between the reticulum of beams and pillars.

The central building of the whole, the "core", is constituted from an elevator in the middle of an hyperbolic structure of concrete square pillars.
The covering is in bent thermal crystal.
In the underground floor, crossed from concrete pillars which unload to the foundations the weight of the overhanging buildings, it dominates the reinforced concrete that becomes support and inner partition, alternating to thick septa, small pillars.

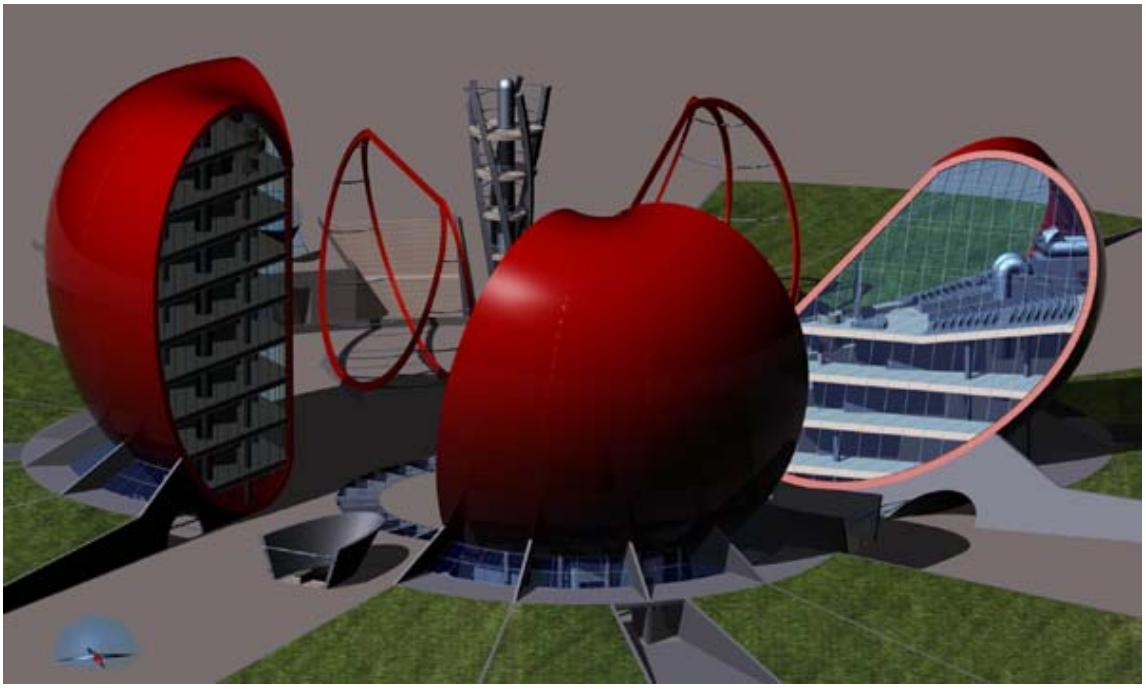
A great glass circle illuminates all this area.



**The plan**

The first one of the five buildings is constituted of five "slices" delimited from six lamellas perpendicular to the horizontal plan.
It’s largest but also less complex then the others, structurally, unloading just the weight in orthogonal way on pillars that as such they are behaved.
The stairs are in the middle of two symmetrical bodies containing the hygienic services.
The two elevators are placed in the two more external modules.
The distance between the plans is of five meters and height of the plans, removed the ceiling contained by beams of 80 centimeters, is developed for 3,70 meters. All for nine floors.
The access to the building happens in the underground floor; only the emergency stairs offer one way out to the ground floor.

The second building, rotated of 22.5 degrees, is more complex, because of the two spins; moreover the pillars are behaved here like pulling, having to berth to earth the body that stretches to fall behind, however supported from the struts.
It developes for eight floors and, excluded the central elevators, maintains the same outline of the first body.



The third building, rotated of 45 degrees, accommodates inside an auditorium served from one winding staircase, one emergency staircase, and an elevator.
The beams take the shape of the large ceiling that it traces the shapes of a field of an elliptical arena. The three floors under, with central elevators, have the same outline of the bodies previously described.

The two remaining buildings show only the structure of the lamellas; the largest, rotated of 67.5 degrees, is still supported from struts, while the last one in horizontal position, simply is berthed to earth on reinforced concrete septa.
The middle of the "core" it is developed on nine plans and it has only panoramic function.

The underground floor, which is approached from a gallery mails under the horizontal body between two large staircases, contains the information agency, reception, bar and surveillance, and the access to the elevators.

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