

The World Triennial of Architecture "Interarch`2015"

Sofia, 17-20 May 2015

***XII IAA General Assembly 19.05.2015***

***Author conference***

***Massimo Pica Ciamarra***



# BRACING OF FORM

I thank Mr. Stoilov for his invitation to present a selection of my projects of architecture in the XII General Assembly of the International Academy of Architecture.

My presentation avails itself of images – as is necessary in architecture – but relates them to “building principles” which are constantly investigated and developed. For me the the “bracing of form” is more pregnant than expressive languages which time by time are adopted. I mean what in each occasion is something underlying and, something which can be reached through participatory processes, through logical constructions which coming to the individual sphere.

The question of language, style, expression, is highly independent and comparatively autonomous. That the projects I shall present do not have a unitary figurative matrix, are stylistically coherent: but they are linked together by a deep unit of purposes and thought. As some critic observed, from the early '60s to date, they have been in different fashions: they avail themselves of thin underlying themes. The first one is considering each project as part of the environment, of the landscape and of the different layers of memory characterizing any place: but the projects indulging to their own autonomy.

Reading the context (not only the physical one, then contexts) leads to understand its deep structure, to discover the central roles -at different scale- characterizing it, to decode its hierarchies, to interpret its connections. Every building weaves this net of central roles and connections, and links its internal logic to this net, by changing it sometimes even by upsetting its structures. That is why it is necessary to distinguish between “building materials” (which in their place in space follow the rules of Euclidean geometry) and the “materials of architecture” (based, ultimately, on topological principles). That is why it is necessary to think of the connection between the “immersion in the environment” and the “internal logic” which defines a project, recognizing the prevalence of the former.

A structured text synthesizes this issue: “*Fragments/Symbioses*” in n° 0/2006 of “*Le Carré Bleu, Revue internationale d'architecture*”.

Since the '50s I have been attracted by the cultural climate of the CB, born at the end of CIAM with roots in the ideas and research works of Team X and for which I have been responsible for a decade.

On this basis, I shall discuss five works, linking each of them to other experiences.

1.

The first group concerns three complexes close to the sea. **The Science City** in Naples/Bagnoli covers a large area and includes some 40.000 sq.ms GFA, one fifth of which destroyed by a still recent arson. The project preserves existent buildings, re-designs other buildings with the restriction of preserving their external shape, designs new ones: it connects the whole to the extraordinary landscape of the Phlegraean Fields and adds new images. The road which still separates the two parts turns into a courtyard, that is from a separation element becomes a connection. The interior of the Museum, with the floor formed by a system of sloping planes, in its development implements the principle of "Moebius Strip". Access to the complex will be from the sea, through a long pier with facilities. The complex is part of an exceptionally interesting environmental and landscape area, absorbed by bringing into it "urban figures" which make the exterior a substantial part of the interior. The Museum of the Human Body, the only part particularly binding regulatory restrictions and which appears with a long bending and sloping shape, is currently under completion.

I connect the Science City of Naples with two projects proposed, but defeated, in international contests: the **Genova – Ponte Parodi** (2000), basically a new urban square enveloped by submarine spaces and voids, rejecting any predefined stereometry, characterized by the great "Aeolian Harps" whose sound is operated by the wind; and the one for the new **Guggenheim Museum in Helsinki** (2014) where, more than a building, the spaces connecting with the exterior and those crossing the interior have been designed.

2.

The second group concerns buildings crossed by urban courses. **The Multipurpose Complex of the University of Calabria in Arcavacata** is a system of spaces distributed around two level open courses, either outdoors or indoors, which interlace defining patios, squares and meeting areas. The courses easily reach roofs, which can be used as places for different types of outdoors activities.

The **Departments of Pharmacy of the University of Messina** are in an area characterized by a great difference in levels. A wide course, above and below terraced lecture halls of different size, crosses diagonally the whole building. The street downstream to the one upstream, reaches the equipped roofing: continuously connected to the ground and to the development, it represents a sequence of meeting points.

The **Faculty of Medicine and Surgery in Caserta**, currently in progress – over 100,000 sq.ms of built surface – is located on the main pedestrian pathway (the "Galleria della Centuriatio") and on orthogonal courses, with the building at an intermediate level, i.e. barycentric also vertically: every connection is aimed at maximizing easy relations between the different parts of the large University complex.

3.

The third group includes the **Library of the University of Salerno** which also has a vertical barycentric arrangement. It is characterized by the aggregation of parts identifiable by form and different materials, arranged around a central level central nucleus. The internal spaces house a network of centers of different importance, of places for study, of spaces which can be crossed and are differently characterized.

The **couple of skyscrapers** in Naples rests on a multilevel slab designed for community activities and all seasons strongly interconnected in space. Here too the main access is at an intermediate level.

The **House in Posillipo** includes various living units, all different from one another, each of them with its own access from the compact space of the small common court where they converge and from where you can see the transparency of the individual units in the buildings resting on the particular morphology of the place.

4.

The fourth group concerns works characterized by energy/environment experimentation. It is the case of the **Biblioteca Sangiorgio in Pistoia** reminiscent of a decommissioned industrial shed, characterized by the insertion of twenty "air and sun chimneys". Free structural elements call to mind the form of what already was there. Spaces for the different activities of the complex develop in the interior aiming to convey feelings of great freedom and well-being. The tree, in the central space close to a small pool, has a role of "sentinel": its conditions immediately indicate when the natural ventilation systems do not fully comply in time with the forecasts of the project.

The **Teuco/Guzzini Headoffice in Recanati** is a small building which avails itself of a natural ventilation favored by the particular distribution of the internal spaces and by the difference in temperature between the Northern front (with a thin water veil flows, in constant evaporation) and the Southern front with a "Trombe wall" and the circular configuration on the principle of the apse. Vertical gardens protect the Eastern and the Western fronts differently in summer and winter.

In the proposal for the contest for the **Padiglione Italia at Expo 2015** arranged for a future conversion in a center of research, four "wind towers" - based on the sophisticated systems of natural ventilation and conditioning in vertical courses and all the systems: since they are four structural nuclei they are also the matter cross-sections and "sigma" forces. The coincidence between the three internal continuities of each building (the circulation of people, the circulation of air and of sigma forces) increases the flexibility and the availability to transform in time.

5.

The fifth and last group concerns the urban scale: here the constant link between Architecture and Urban Planning - which is typical of all my activity - is particularly outstanding. The building of the **Institute for Engines and Materials Research Council and the opposite Square** are two different but closely integrated projects. The building has been the first of the energy/environment experiments: it is based on water and sun. It is made to have new developments and new connections, both at its back, and in the opposite area. The South front follows the principle of the Trombe wall: it is self-shaded in summer and captures the sun in winter. It ends on the top by a great gutter which collects rain water falling on the roofing and is characterized by big water tanks. An atomized water fountain provides cooling by evaporation.

Within a large free space of over 5 hectares, the Square (a little more than 1 hectare) is a triangular space defined by three vertexes - the Tower of Memory, the Tower of Time and Fluids, the Tower of Information - and structured by the network of different textures and materials. The Tower of Time is the greatest sun dial ever built.

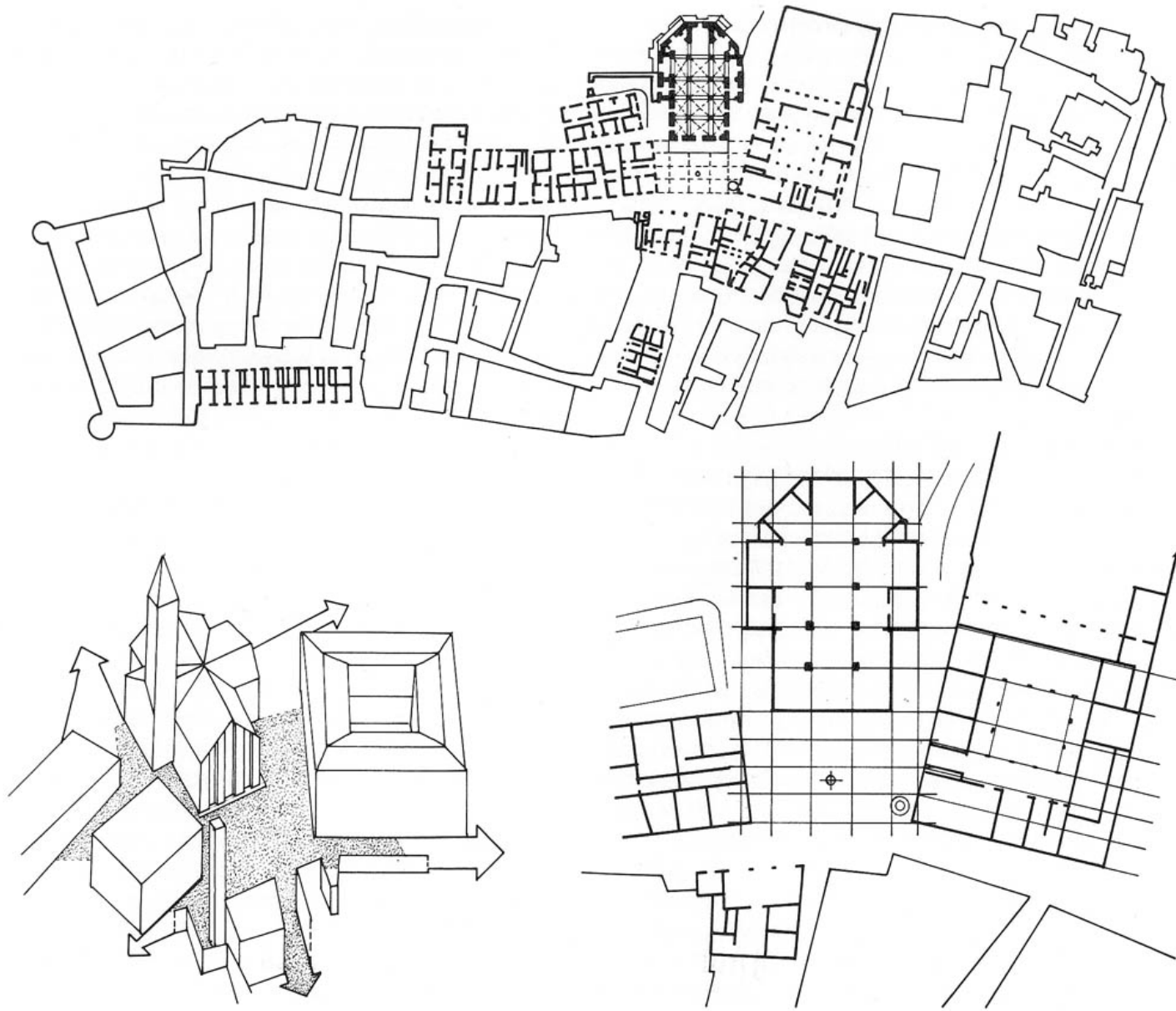


The urban scale permeates also the project for the transformation of an industrial peripheral decommissioned area in a part of the urban central fabric of **Terlizzi** and aims to implement a set which does not only secure exceptional quality/environment performances, but above all expresses the search for a different way of living. The **Caserta M** is based on a network of "places of social condensation" and on a system of collective hydrogen-fed circulation to implement the "5 minutes city", spatially characterized stressing the tracks of the ancient Roman "Centuriation" in relation with the two extraordinary architectural monuments listed in the UNESCO sites.

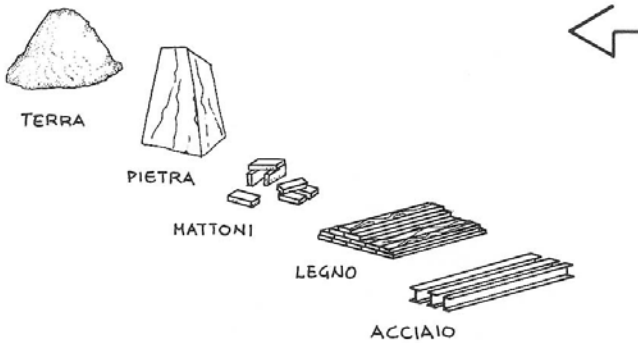
Finally, the project (near completion) for the **University of Sannio** in Benevento, characterized by a pedestrian crossing starting from the main reference point of the historical city, passing over three urban streets connecting the historical center to presently marginalized and peripheral areas.

A more exhaustive record of these experiences can be found in [www.pcaint.eu](http://www.pcaint.eu), where writings motivating the reference principles are also collected.

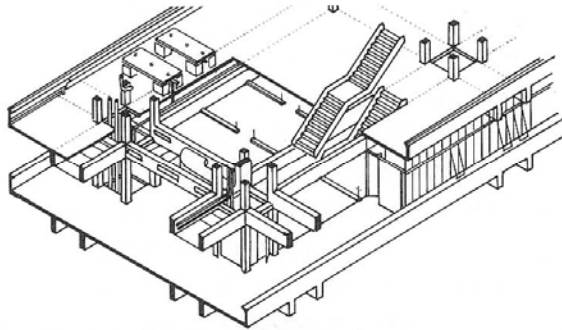
Our research is actually based on a close connection between theory and practice.



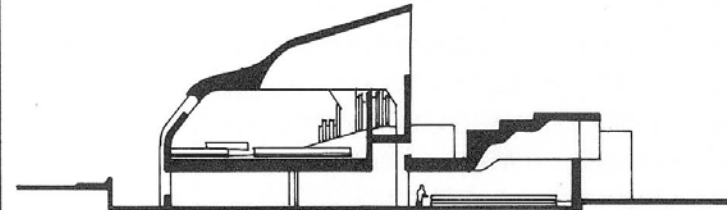
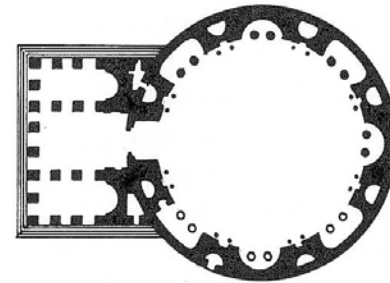
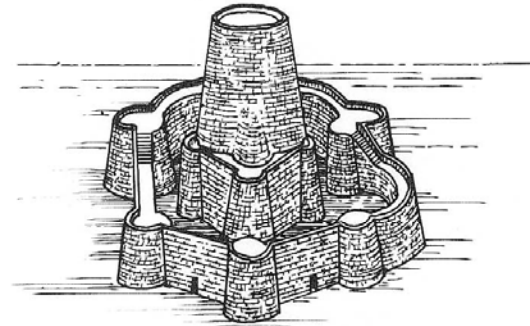
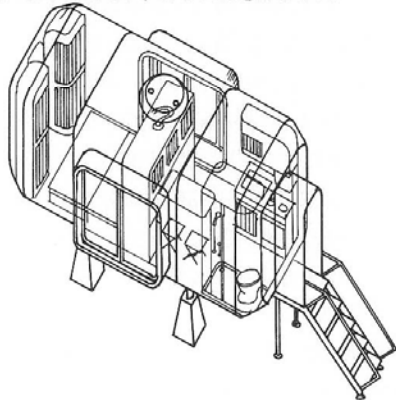
each project as part and fragment of the environment,  
*of the landscape and of the different layers of memory characterizing any place*



ELEMENTI SCIOLTI  
AGGREGAZIONI ELEMENTARI



AGGREGAZIONI COMPLESSE  
COMPONENTI INTEGRATI



**building materials / materials of architecture**

# le carré blanc

français, english, italiano

Revue internationale d'architecture · n° 01/2004 · 10

## FRAGMENTS SYMBOLS QUESTIONS

### questions

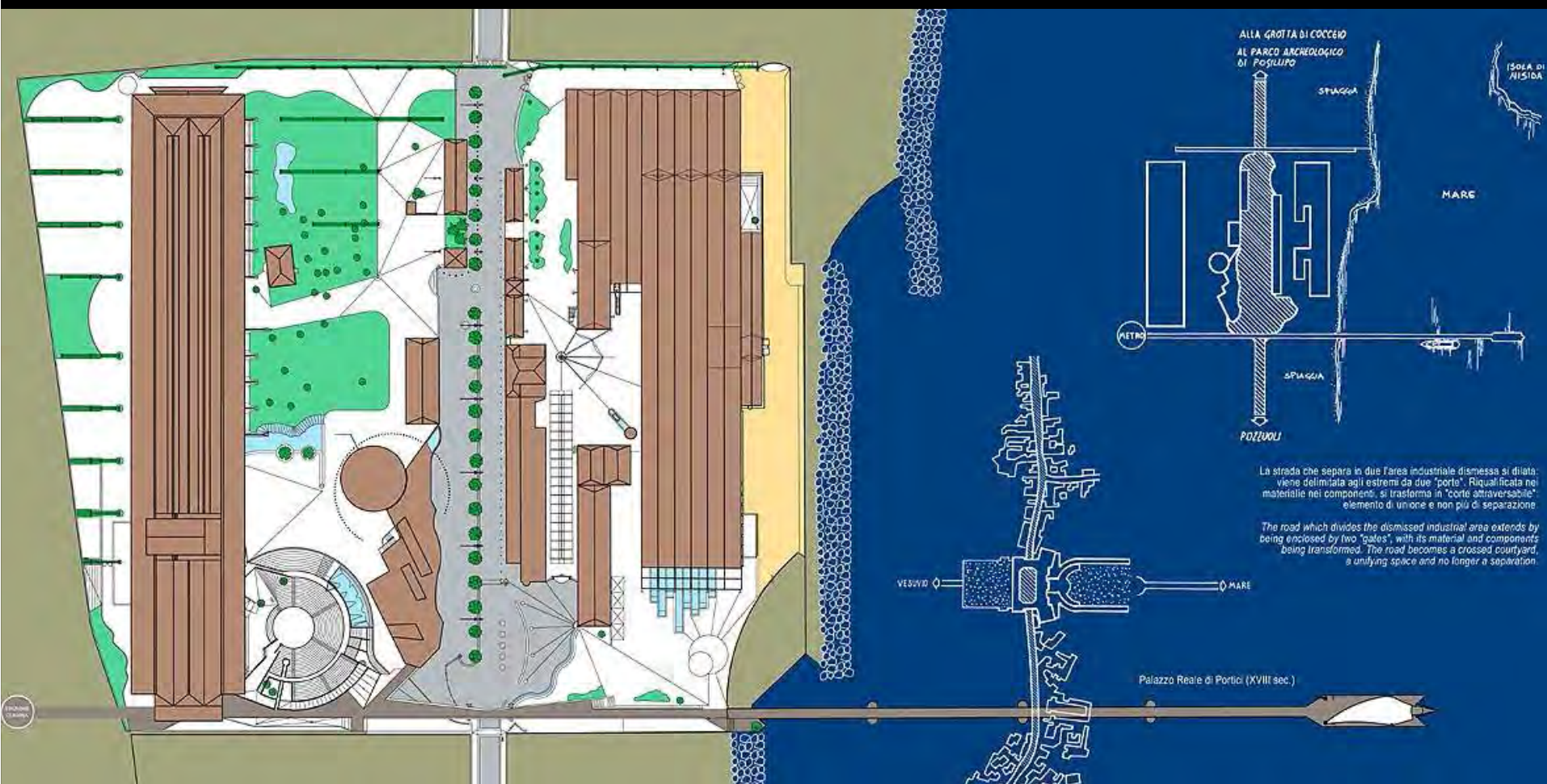
Qu'est-ce qui caractérise notre contemporanéité? Quels slogans expriment les tensions d'aujourd'hui? Quelles visions soutiennent la course vers l'avenir?  
Cosa tende a caratterizzare la nostra contemporaneità? Quali slogan esprimono le odierne tensioni? Quali visioni sostengono gli attuali aneliti verso il futuro?  
Cosa tende a caratterizzare la nostra contemporaneità? Quali slogan esprimono le odieme tensioni? Quali visioni sostengono gli attuali aneliti verso il futuro?

1



Naples/Bagnoli - The Science City





## Naples/Bagnoli - The Science City



















Naples/Bagnoli - **CORPOREA** *Museum of the Human Body*











Guggenheim Museum in Helsinki



*The concept design for the Helsinki Guggenheim Museum suggest a substantial urban and landscape re-establishment rather than a new "building"*

Cityscape







**The Multipurpose Complex of the University of Calabria in Arcavacata**





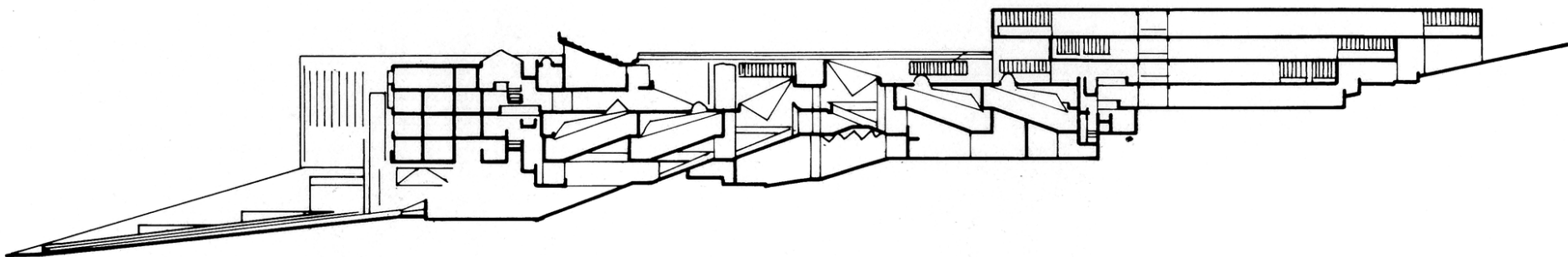












**Departments of Pharmacy of the University of Messina**







Faculty of Medicine and Surgery in Caserta



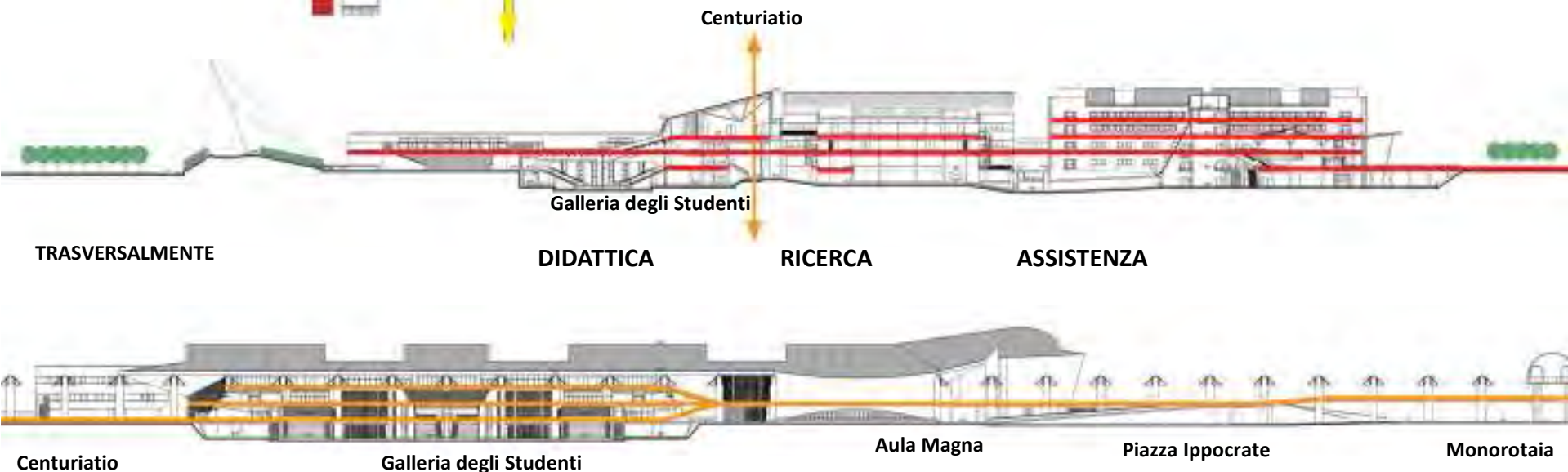
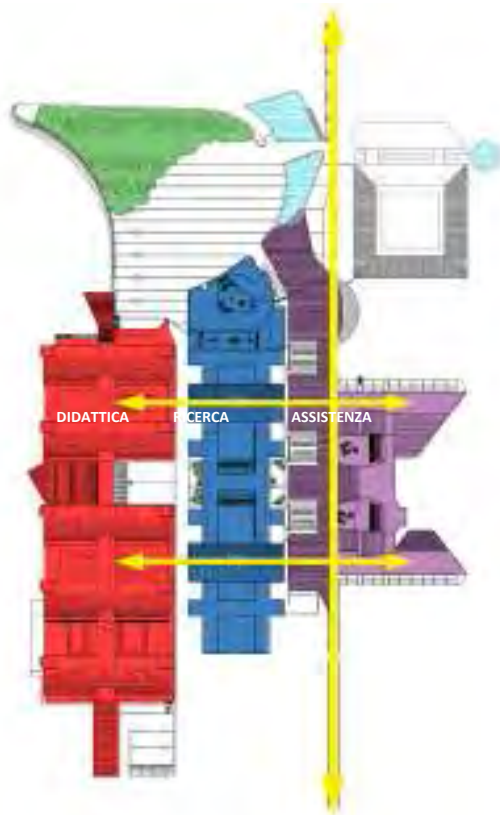
## massima compattezza del sistema

500.000 mc didattica, ricerca, assistenza

percorrenze pedonali interne,  
all'interno di un quadrilatero di 100 m

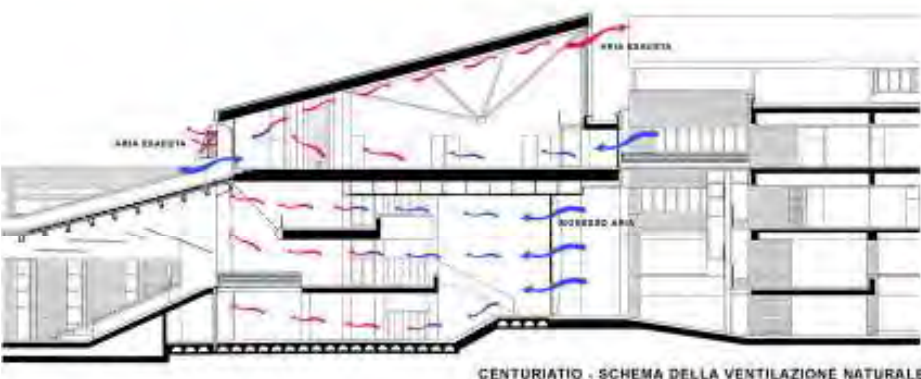
un sistema articolato con accesso a quota intermedia

## planimetrica e altimetrica



LONGITUDINALMENTE

# LA GALLERIA DELLA CENTURIATIO E IL MURO D'ACQUA



CENTURIATIO - SCHEMA DELLA VENTILAZIONE NATURALE



## Galleria della Centuriatio \*

su due piani, i laboratori didattici ed al terzo la Biblioteca centrale. Questi spazi sono dotati di un sistema di ventilazione naturale che utilizza una serie di camini circolari, elementi d'illuminazione e struttura principale della galleria che si prolungano al di fuori dell'edificio nelle due direzioni, a segnare l'antico tracciato romano.

## il "muro d'acqua" \*

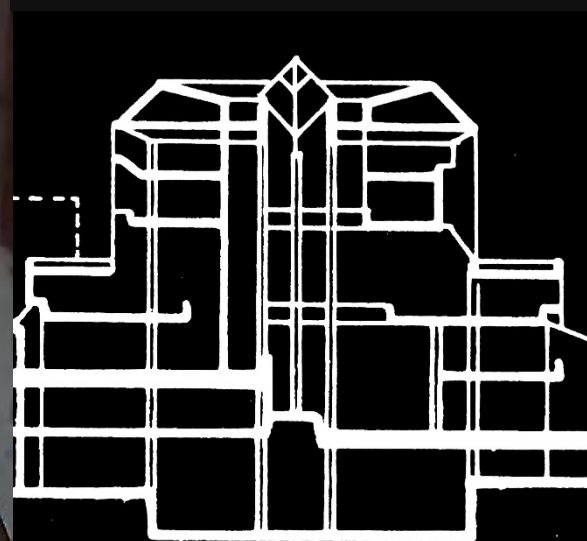
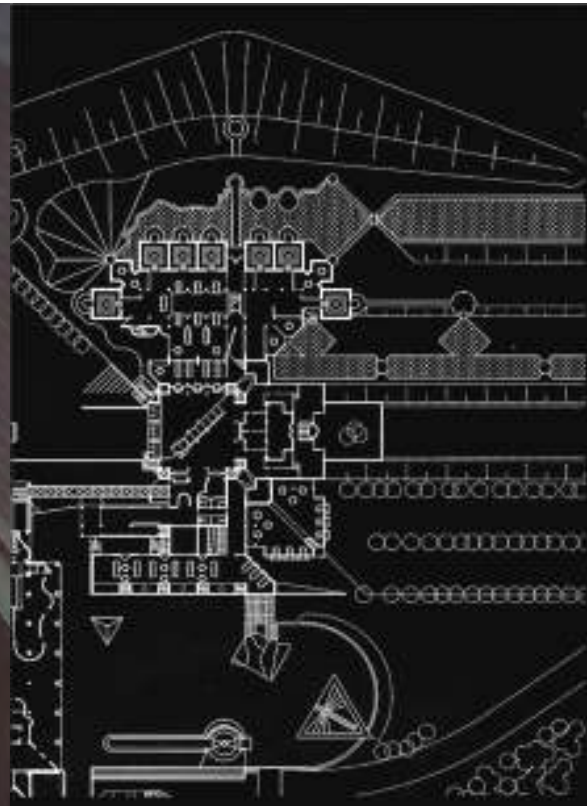
e le configurazioni arboree, elementi forti del ridisegno del paesaggio proteggono dal microinquinamento ambientale

SEZIONE TRINO PIANO  
SCHEMA DI VENTILAZIONE NATURALE









Library of the University of Salerno









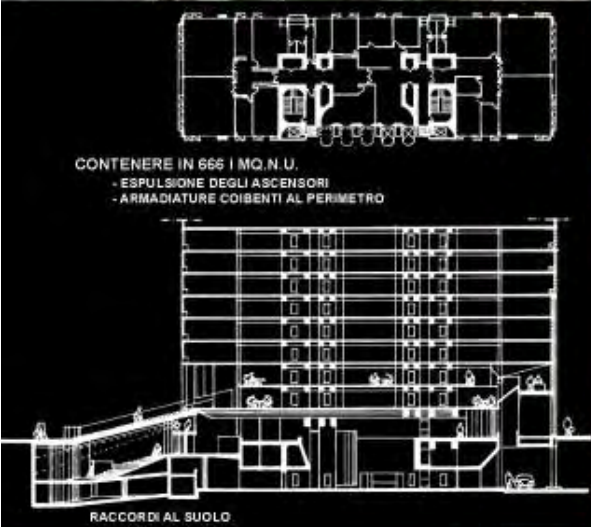












Couple of skyscrapers









House in Posillipo

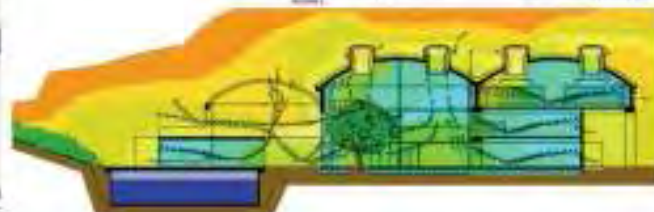
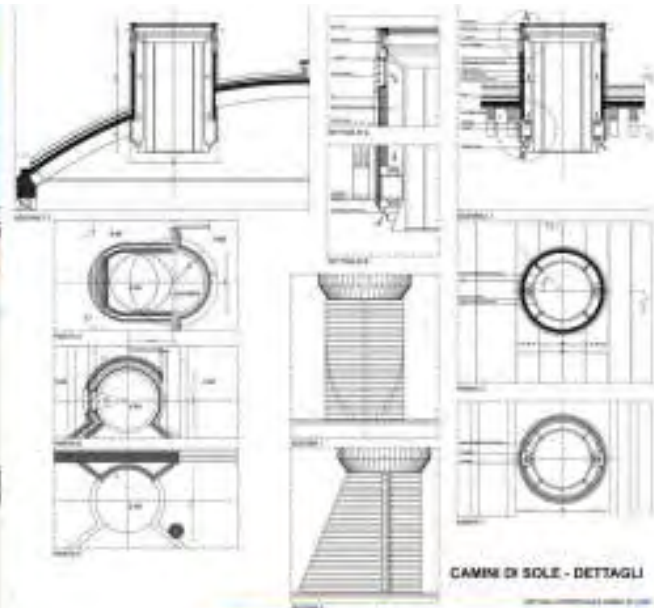
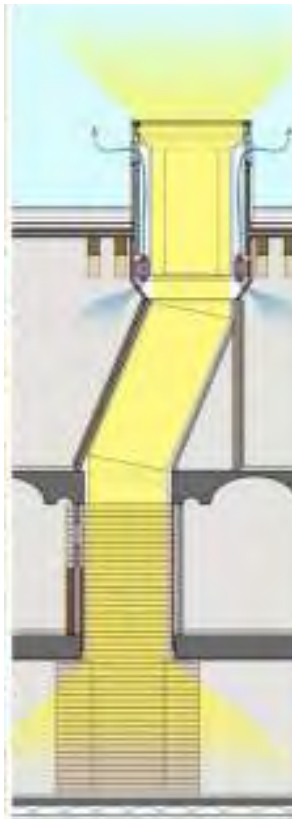










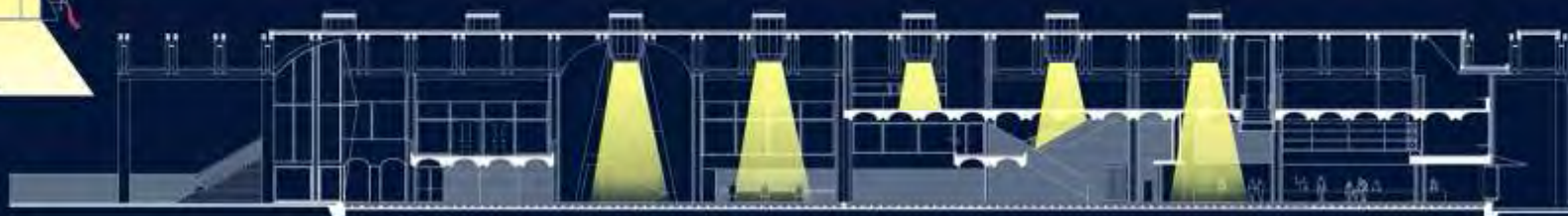
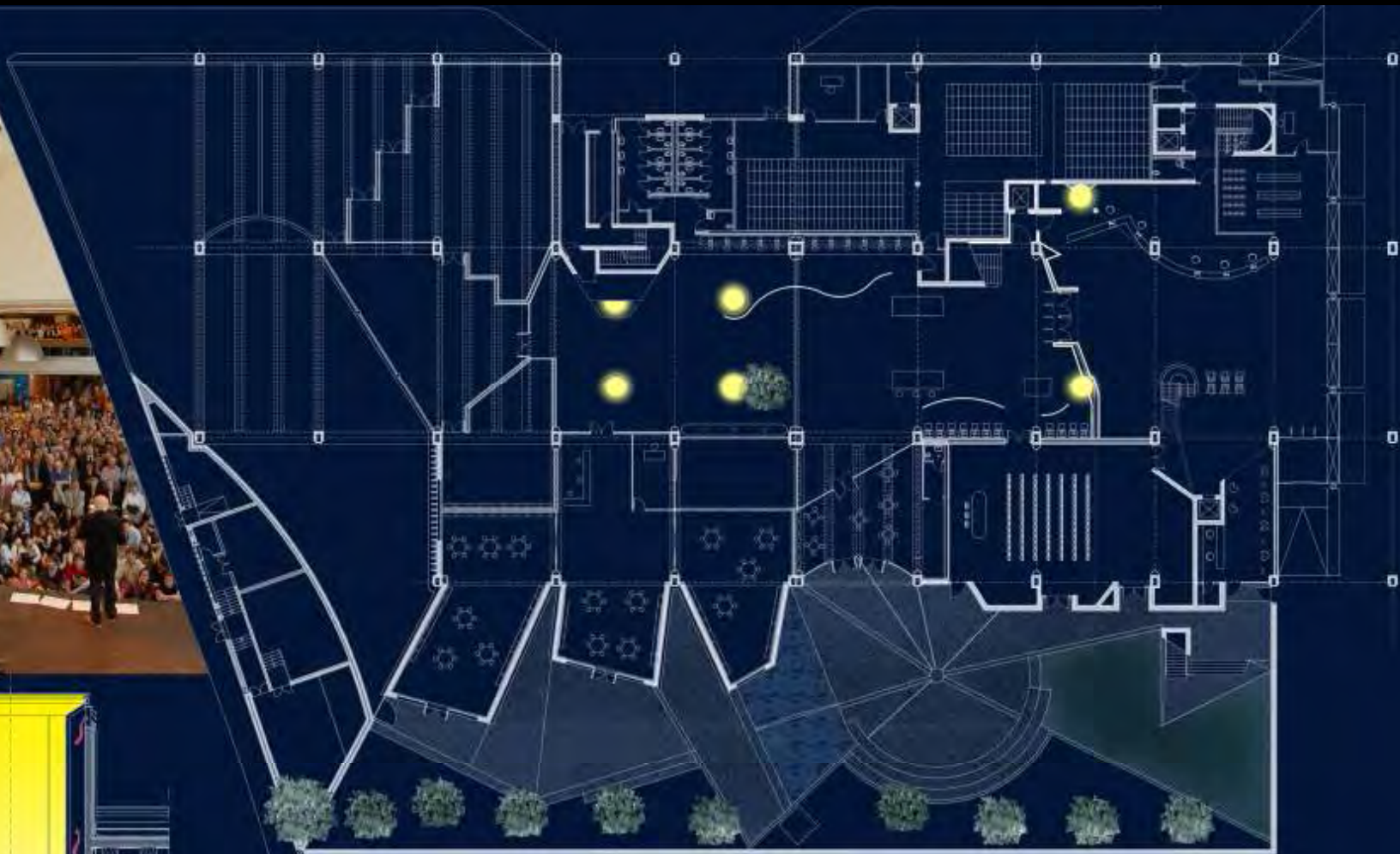


















alberi come sentinelle

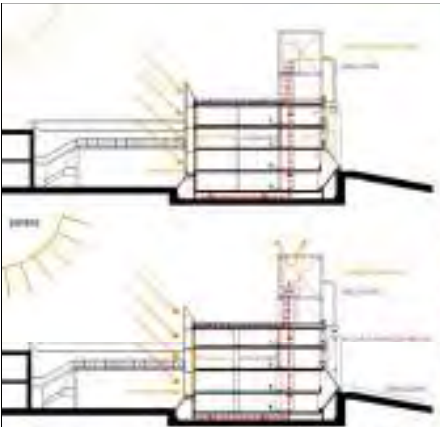




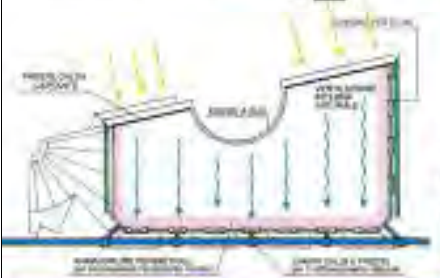
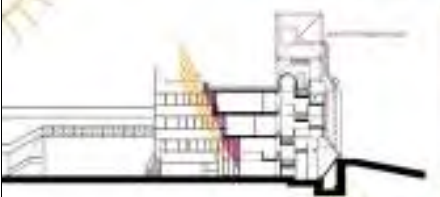




**Teuco/Guzzini Headoffice in Recanati**

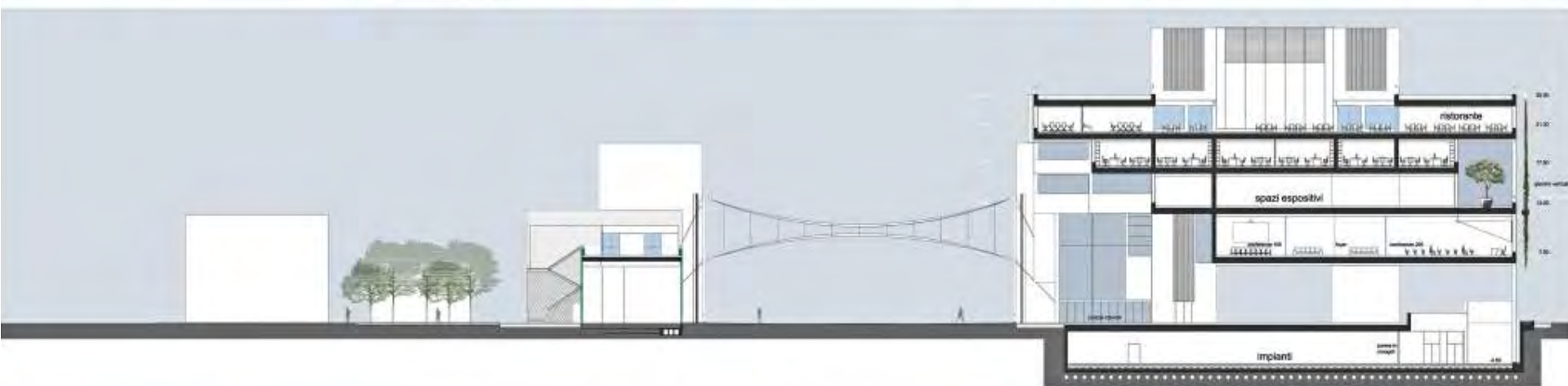


ABBIGLI SUL FRONTE D'AR



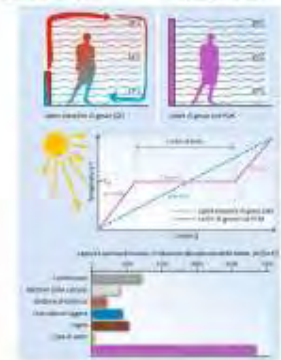
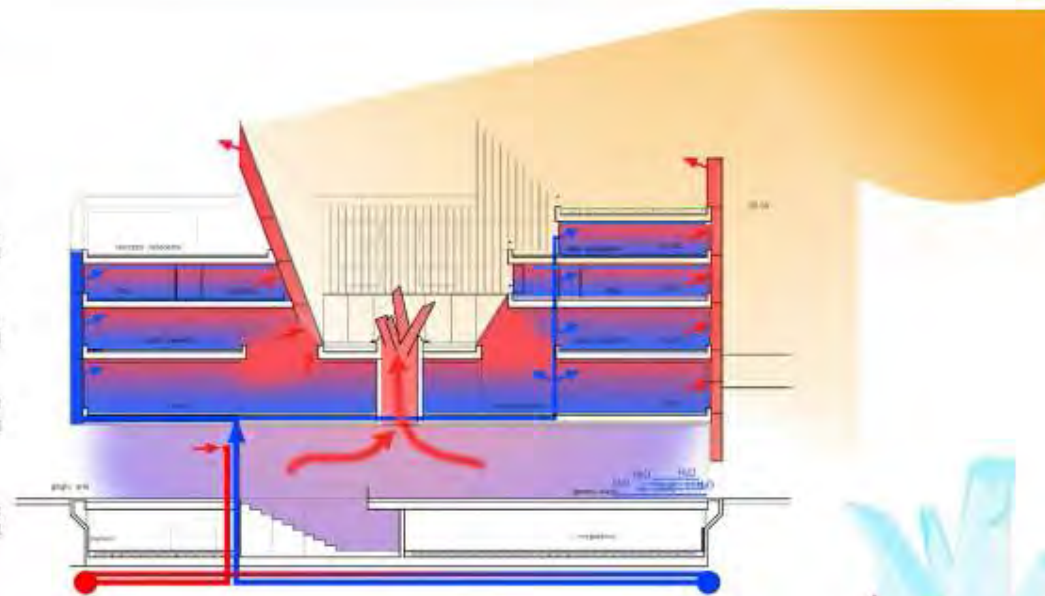
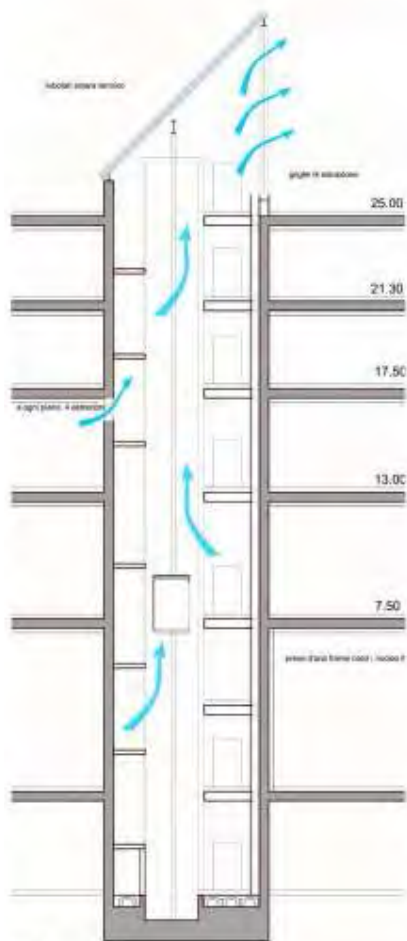






**Padiglione Italia at Expo 2015**





materiali fotocatalitici

materiali in cambio di fase PCM

sistemi di estrazione dell'aria

energia  
qualità dell'aria  
luce

tipologia delle 4 "TORRI DEL VENTO":  
coincidenza percorsi verticali / nuclei strutturali / montanti reti impianti

1/200

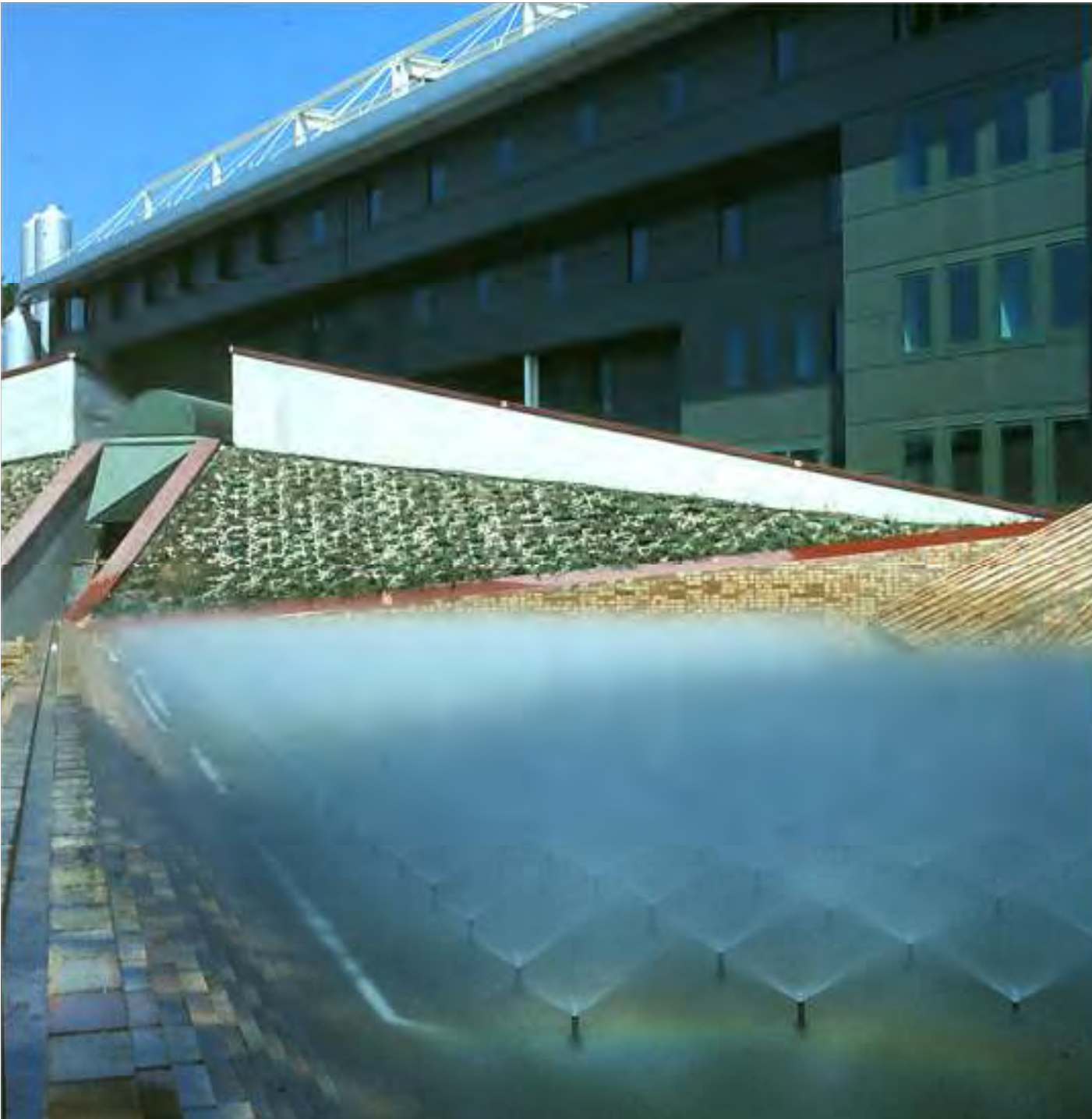




**Institute for Engines of the National Research Council and the opposite Square**







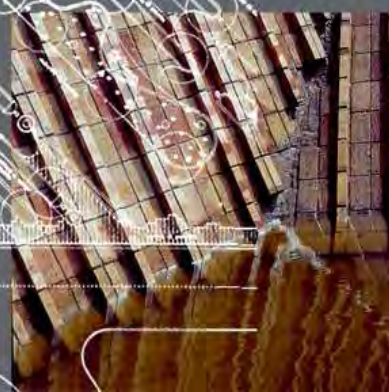
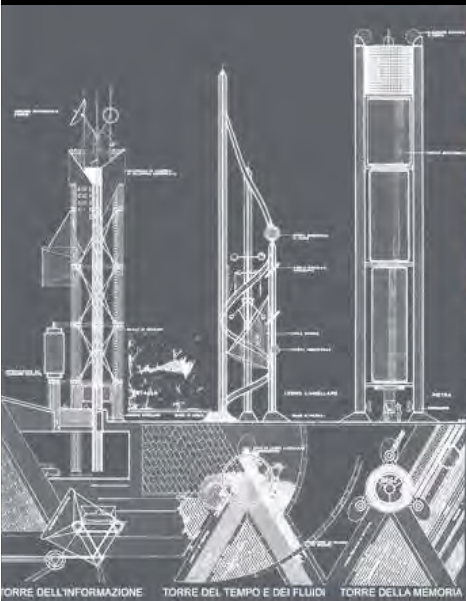




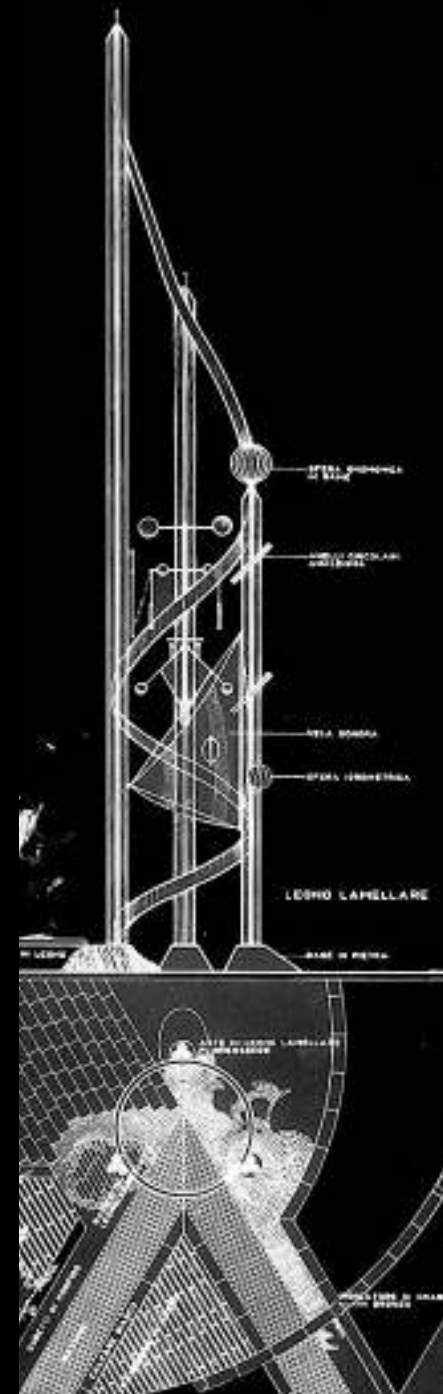


























BE LEAN  
*frugale*

BE CLEAN  
*senza CO<sub>2</sub>*

BE GREEN  
*verde*

TERLIZZI KO-CO<sub>2</sub>



# 1 - Reti di centralità e spazi pubblici

## 2 - mobilità e accessibilità

## 3 - Risorsa ambientale

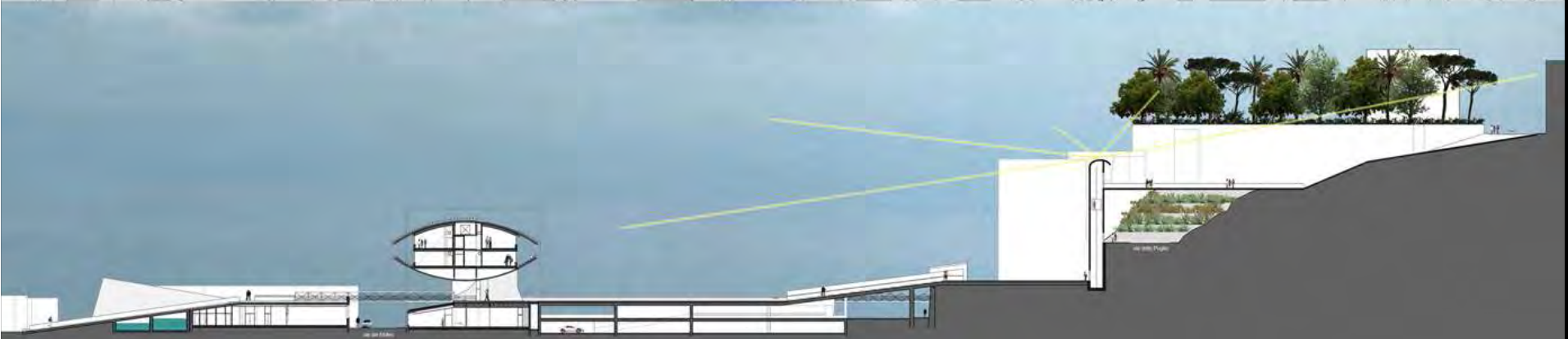
## 4 - Aree prioritarie di trasformazione e densificazione





University of Sannio





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