Morphological implications of passive control

“T​h​e,didn’t invent anything. I just designed an hospital that can be born, live and expand itself like an open hand”, Le Corbusier

Venice Hospital, 1965
ARCHITECTURAL DESIGN  STUDIES, CALCULATIONS AND DRAWINGS

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XV CENTURY

ENVIRONMENTAL DESIGN

ABBAZIE OF CLUNY

THERAPEUTIC ROLE

OSPEDALE MAGGIORE, MILAN

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COURTYARD AND PAVILLIONS

Durand
Desgodets
Poyet y Coqueau,
Royal Naval hospital

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COMPACT TYPOLOGIES

- Lift diffusion
- Increased cost of urban fields
- Pasteur and Koch discoveries - role of bacteria

DELEGATION OF THE ENVIRONMENTAL CONTROL TO INSTALLATIONS
The study of functions doesn’t represent anymore a solid base for hospitals architectural design. Functions change so often that architects will not have to aspire to the optimum between form and function. The real requirement is designing buildings that would allow functions to change

John Weeks
Thermal energy used for environmental comfort represents more than two thirds of the total consumption. Font: ENEA, 1996
MORPHOLOGICAL ANALYSIS

Pediatric hospital Gregorio Maranon
Location: Madrid
Architect: Rafael Moneo

SHAPE COEFFICIENTS
ENVIRONMENTAL BEHAVIOR

INDICI DI FORMA

\[ C = \frac{S_{eq}}{S_g} \]
\[ p = \frac{V_{op}}{V_t} \]
\[ e = \frac{h}{d} \]

COMPATTEZZA
FOROSTÀ
SNEZZZAZA

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COURTYARD AND PAVILLION TYPOLOGIES
- XV - XVIII CENT
therapeutic role of natural light and ventilation

COMPACT TYPOLOGIES
- XIX CENT.
role of bacteria, HVAC, lift

FLEXIBLE TYPOLOGIES
- XX CENT.
Medical science acceleration and functional organization unpredictability.
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VERTICAL
- SLAB AND TOWER
- ARTICULATED SLAB
- GALLERY

HORIZONTAL
- MODULAR PLANT WITH COURTYARDS
- SPINE AND PAVILIONS

General services
Diagnosis and treatments
Nursing wards

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INDETERMINISM

1. ADAPTABLE BUILDING
   Isolated structures able to change independently

2. UNIVERSAL BOX
   Box of big dimension – any point of the structure is able to host any sort of function

3. MAT BUILDING
   The mail guarantees growth and order

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INTERSTITIAL SPACES

INTERSTITIAL SPACES

MORPHOLOGICAL CHARACTERISTIC

VERSATILE INTERSTITIAL SPACES
INTERNAL TO THE PERIMETER

ENVIRONMENTAL QUALITY

ENVIRONMENTAL SENSITIVITY
FORM/CLIMATE

FUNDAMENTAL QUALITY – COLLECTING INSIDE THE PERIMETER INTERSTITIAL SPACES, SMALL FRAGMENTS OF AIR AND DAYLIGHT WHOSE CONDITIONS MIGHT BE CONTROLLED AS AN INTERNAL SPACE.
ENVIRONMENTAL CONTROL

STRATEGIES

INTERSTITIAL SPACES

ADAPTABLE BUILDING

MAT BUILDING

UNIVERSAL BOX

GAP

PARK

NO EXTERIOR, IN-BETWEEN

PATIO

INTERSTICE LOW COMPARTIMENT / EDICOLAR ARCH.

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