POLYTECHNIC OF TORINO FACULTY OF ARCHITECTURE Degree in Architecture <u>Honors theses</u>

Reception centres for minors and the brasilian context : design of build-it-yourself modular partitions in poor lamellar wood

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This work is not a single case study.

It presents a new mean to transform institutions for children in warm, cosy spaces moulded according to children feelings and requirements, number and age: internal partitions to be set in formerly existing "container-buildings", often recovered from previous activities.



Assembly sheet offprint

It was specifically conceived for street children in Brazil: considering their need to live in semi-opened spaces, operate on their environment, change it and "own" it, also as a way to streghten their self-confidence. It relies on children capacity of reaching agreement with their peers and it stimulates cooperation on decision making. Brazil has been chosen as the context because of the availability of contacts and information and of the importance of the juvenile desease there. A description of all kinds of initiatives locally carried out (residential or simply daily) is enriched by the inclusion of the documents about UNCHS (Habitat) projects in Brazil, found during a 2 and a half months stage at the Geneva office (Switzerland).

The study also analyses from a functional and spatial point of view some community and social centres existing in Piemonte, comparing them with the contemporary european design tendencies for similar buildings, through the few documentary examples that where available. It also dedicates a long chapter to the definition of the "street child", reporting the historical and social reasons, the approaching process which brings him to the street , his relationship with his territory, his utilisation of the physical space and the psychological links with his environment, examining the meaning of the "street" for him and the other subjects and cultures that he interacts with.

Walls can be modified by omitting one or more panels (and thus creating doors or windows between rooms), inserting transparent panels or double-tables. The whole system is made up by poor materials: resulting wood, iron bars for concrete and squared metal profiles.

It creates shared, common spaces safeguarding privacy and intimity of single niches. These are its most important characteristics:

new flexibility in community spaces -> movable modular partitions

• participation of the users in the management of their life spaces -> changeable walls, replaceable panels

• customized niches - your own space -> panels easy to paint and to stick to, coverable with children drawings to protect from the rough wood surface

• coordination and cooperation required among the users for set up decision making -> one wall belongs at least to two rooms

• pleasant spaces according to human and child need for protection and for anti-stress environment ->suitable disposal of the modular partition in relation with activities (sleep, study, play...)

• safe and warm materials -> glued lamellar poor wood in panels

-> iron rods for concrete, squared closed metal profiles

easy building procedures -> playing joint system, manual, with no mortar

• competitiveness -> essential furniture provided by the architectural system itself: beds, tables, shelves, wardrobes, benches and chairs.

• cheap and self-constructed components -> glued lamellar poor wood panels can even be constructed by children; they are made of:

resulting wood in small pieces of various dimensions and same thickness (1-1,5cm);
ureic resin or vinilic glue in non toxic proportions.

They have already been tested properly at the Specialization School of Technology, Architecture and City in the Developing Countries, Department of House and City, which I referred to preparing my thesis.

In order to verify its feasibility and robustness, in addition to some calculations, two models were manufactured in the Thecnological Laboratory of CISDA: one in 1:2 scale (3 modules) and one in full scale (1 module), with satisfactory results.



An estimation of a module cost was made with the Wingraf software, used in the Department of Energetics.



The study was completed with a visit on site (for a 2 and a half months stage), leading, through the realization of another model, to the conclusion that local costs are rather high.

The whole text is accompanied by a "counter-page" of small drawings and key-words schemes, to make the reading faster, richer and more easily understandable.