

Resource Re-use: Building Site Dwelling

Summary

Subject of enquiry

Refurbishment of housing units with the intention of improving the functional and aesthetic qualities can be seen as a sustainable strategy. There is not much research on the topic of housing refurbishment. During the course of the research project remodeling schemes for apartments designed by the younger generation of architects were critically evaluated. A set of criteria was defined in order to analyze and establish a typology of the designs. Approximately 60% of the projects were selected for further evaluation through an interdisciplinary jury. Twenty-five designs were chosen for further assessment. We examined how the remodeling worked post-occupancy. We visited the apartments, talked to the inhabitants and documented the designs during everyday use.

Research methods:

Calls for projects in different media such as mailings lists, monthly architectural publications as well as mainstream newspapers were used in order to collect as many projects as possible. We documented approximately 160 projects.

Our intention was to analyze the designs with the help of different criteria, ranging from functional conception, sustainable materials, adaptability/flexibility to intelligent re-use of original design schemes. Two rounds of evaluation led to the selection of twenty-five projects, twenty-three of which we were able to visit. Interviews with inhabitants were essential for our findings.

Assessment:

Through analysis and assessment of different refurbishment strategies we were able to identify the following re-use typologies and "contextual dialogues". Our method of selection helped us to find the best practice cases. Re-use typologies:

Functional piling-up:

Since the "*Gründerzeit*" era apartments have high ceilings, this spatial potential is being used for stacking of different function on platforms, plateaus and different levels.

Service strips:

Functions such as bath, HVAC, kitchen and storage are all positioned next to each other to form a strip of infrastructure. In this way, the areas in front of them get functionally defined as well. Cubical disposition of service strips is also possible.

"Contextual dialogues"

85 % of the housing units belong to an era called "*Gründerzeit*". Intelligent and conceptual re-use designs deal with this building era. Open spaces and flexibility are characteristic for remodelling of dwellings of the Post-War Modernist era. The surroundings were only partially considered.

Sufficiency

Housing units with the minimum space were classified sufficient, which in our opinion is one of the most important themes for the future.

Lifestyle living: Individualization of home

The design of the home is more and more used to express one personality. While the living room used to be the center of attention and of effort, nowadays there is more focus on kitchens, bathrooms and balconies. Food preparation, gardening, personal hygiene is no longer a pure necessity but more of leisure activity. The aspects of representation are in contradiction with the desire for privacy and leisure. When the concept of open, undefined space prevails, functional use is sometimes prevented.

The non-adaptable floor plan

One apartment during the course of one life still seems to be the norm in Austria. The fact that dwellings should be flexible in order to adapt to one's changing needs and lifestyle was not taken into account in many of the design concepts. Flexible and highly adaptable design schemes were not common. Superfluous space is considered as flexible enough to buffer changing needs. Given functional used were widely accepted and the identification of inhabitants with their apartments was intense. Highly innovative or radical solutions were typical only for projects where architects designed for themselves.

Minimal construction interventions:

Remodelling and re-use schemes were limited to minimal changes. Construction measures can best be described as restoration and alteration.

Intensive planning stage:

In comparison to planning procedures for other building typologies this relatively small projects involved very intense communication between architects and principals. The interviews the the inhabitants (who in most cases were also principals) revealed a high level of satisfaction with the designs and the planning process. Principals were also involved on the building site.

Outcome

One of the special characteristics of remodeling and refurbishment is that designs are highly dependant on the existing structure, both functional as well as structural. One of the goals of or research project was to identify design schemes which are transferable and can be implemented in different types of housing. We classify our collection of best practice cases as future oriented because it meets the following criteria:

- Sufficiency in space consumption
- Smart re-use of existing structures
- Better use of given space
- Floor plans which combine open space configuration with efficient functional arrangement

Radical designs of highly innovative character were not submitted. Further topics which need to be tested through "research by design" include sustainable / green building design but also collective planning and projects with the emphasis on participation.

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