



**POLITECNICO
DI TORINO**

Honors thesis

MSc (LM-4) program in
Architecture for Sustainable Design

Abstract

**Reuse architecture. Evolution of an architectural and
technological designing process**

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by

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The goal of the thesis is to analyze reuse in architecture, in its connotations and applications, by investigating history, development and possible design uses, to define of a design methodology. The thesis opens with a comprehensive study about waste: the starting point of the work is understanding what waste is, how it is generated and how people perceive it. Field research, numerous interviews and visits at architecture best practices (as Lendager Group in Copenhagen and Superuse Studio in Rotterdam) helped to study and understand dynamics of the design with materials and recycled components, allowing to identify potentialities and criticalities.

An important part of the thesis project deals with circular economy, highlighting and analyzing possible design useful strategies to maximize the success of reuse. Large space was in fact dedicated to planning the recovery and analyze potentially recoverable materials. These two phases of research were important to understand the importance of planning the end of the building's life, a phase that if properly designed will allow not only to reduce waste but also to facilitate future redeployment, to plan a closed-loop architecture.

Thanks to the two phases of research and experience, it was possible to propose a design methodology, which consists of seven phases, that differs from the traditional one. Materials are the main subject which all decisions are referred to and they outline the strategies to be undertaken: it highlights the complete detachment from a methodology focused on design goals. The thesis ends with the application of the proposed methodology on a project of a study room, located adjacent to the headquarters of the Faculty of Architecture, in Via Boggio, Turin. This final phase had resulted in a harvest map, which has been central to the project definition. After three months of field research, forty companies in the province of Turin were mapped. Based on the materials they provided it was possible to define the study room project.

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