

POLITECNICO DI TORINO
FIRST SCHOOL OF ARCHITECTURE
Master of Science in Architecture (Construction)
Honors theses

**"Antiseismic building systems wood in the european context"
Analysis of the main structure from 700 to today earthquake resistant**

by Alessia Accetta

Tutor: Guido Callegari

Co-tutor: Giuseppe Pistone

In this thesis, we want to discuss the relationship between the seismic phenomenon (as it grows and its consequences in architecture) and the different types of wood construction, analyzed in a time span ranging from 700 today, which are the basis of seismic resistant systems Europeans.

Before addressing this issue is important to clarify what is the thesis and what are the objectives to be pursued.

It addresses the issues of reconstruction of Europe's building after several major earthquakes and tragic, with particular reference to the construction techniques used to build earthquake-resistant buildings.

It also represents the outcome of a research bibliography with which it was possible to arrive at a clear definition of such systems have been used for reconstruction after the earthquake and how they have developed and tested building types adopted in the cases analyzed.

In particular, the fundamental thesis analyzes two historical periods:

- The experiences of "historical" in which they studied including some earthquakes between 1755 and 1908;
- The prospects for the most current or contemporary descendants of the context of technological innovation, in which the study is placed on the Turkish earthquake of 1999-2000 and the Italian one in 2009.

These tragic events followed the reconstruction of cities based on the application of seismic-resistant designs in wood, in which data are, in a broad and detailed, all types of construction signs. It is also important to note that these earthquake-resistant structures are part of the genesis of two major building systems to CAGE and SEPTA.

In this paper emerge, therefore, interesting considerations about the behaviour of seismic resistant timber structures, how they were at the center of the reconstruction of cities reporting the typical features of a site of a new identity and thus to different countries.

In this regard, another important point of this thesis is to be allocated "EARTHQUAKE RESISTANT", understood as a specialized discipline and should not be restricted to technical fields, but it should be both architectural and engineering expertise.

The scope of seismic design, which has become important in recent years, especially in light of increased intensity and frequency of seismic events is today analyzed and taken only in its technical aspects, and not in relation to the recovery of the characters architecture and design of the past.

Looking at past experiences, it is clear that the earthquake-resistant structures were designed, albeit in different structural and technological fields, such as architectural fact, and therefore part of a broad-spectrum architectural design.

The rebuilding was tackled by continuity with the Image of the different settlements urbis through an "adaptation" to the cultures and due to construction practices.

These issues, become an occasion for reflection in the light of experience of a season that also saw the reconstruction of Italy as field trials in recent years.

This leads to one conclusion: today seems to lack a "collective memory", a historical overview of how to build, in the contemporary era is not this kind of concept, then the intention of this thesis is also to distance themselves from current experiences, highlighting some limitations.

The construction of earthquake-resistant buildings should be looking at design as a whole, analyzing every single aspect and detail in order to have good architectural and urban structures.

For further information, e-mail:

Alessia Accetta: alessia.accetta@virgilio.it