# FIRE ENGINEERING AND RISK ASSESSMENT OF HISTORIC BUILDINGS

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#### POPULATION ATTITUDE TOWARDS CULTURAL HERITAGE

Historical approach – strictly utilitarian

200 years ago – feeling towards the past

Preservation and restoration of artifacts

#### **CULTURAL HERITAGE IS ALWAYS AT RISK**

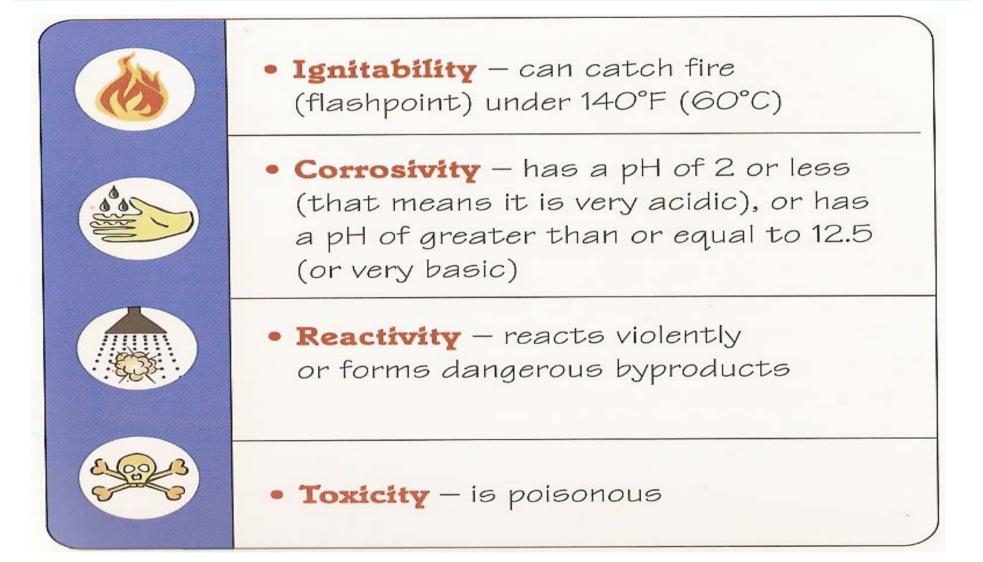
- sacral heritage (high number of fires caused by deliberate action to cover prior robbbery)
- recent years hazard prevention, guarantees of sufficient fire security level
- fire brigades extended special preventive supervision (problem of wooden structures)
- inadequate protection caused by negligence



#### **HAZARD SOURCES**

- physical and chemical properties of materials and substances (often stored there)
- usage conditions (temperature, high pressure)
- human error, calessness, defects of installations and devices
- ✤ vis major

#### **Dangerous materials and substances**



## DAMAGE OF BUILDINGS AND THEIR CONTENT

fall or partial destruction by burning

damage from heat, smoke, soot, combustion byproducts

water damage from fire-fighting efforts



#### EFFORTS TO STRENGTHEN RESISTANCE OF A BUILDING

- reducing potential sources of ignition
- maintenance and housekeeping
- regular inspections of the most vulnerable components (electrical installations vulnerable components mostly not visible)

## STRATEGY AND TECHNICAL MEASURES RESTORATION TREATMENTS

- elimination of ignition sources (human error and ngligence, naked flames, candles, cleaning chemicals and paints)
- repair activities (soldering, paint removal, carpentry)
- hot work, e.g blow-lamps, cutting, welding is allowed if there is no other alternative
- heaters should be serviced regularly, chimneys swept and flues and ducts maintained in a sound condition
- installation of preventing smoke and flame, barriers should not detract from the character of the building

## STRATEGY AND TECHNICAL MEASURES RESTORATION TREATMENTS

- preference to non-intrusive measures
- Intrusive just in case when other are inadequate and threaten human life and architectural heritage
- fire-response plans: roles of occupants-cultural heritage professionals-fire brigade in response
- Adequate access at all times for the emergency services; roads and access poits are chosen and well identified and maintained

WE ARE ABLE TO DEAL WITH A CATASTROPHE AND ITS CONSEQUENCES WITHOUT HAVING TO SET HUMAN LIFE AGAINST THE VALUE OF CULTURAL HERITAGE. THE LIFE AND HERITAGE ARE LINKED, IT IS A PART OF A INDIVISIBLE WHOLE, THE EFFORTS TO SECURE ONCE SHOULD SERVE TO STRENGTHEN THE OTHER AND WE ARE ABLE TO FIND ONE COMMON LANGUAGE

> Venice Charter (article 16) and ICOMOS Principles for the Recording of Monuments, Groups of Buildings and Sites

# THANK YOU FOR YOUR KIND ATTENTION