Unreinforced Masonry Buildings

Paul Lepore

How to Identify Unreinforced Masonry buildings (URM)

- Arch over window
- Deep, recessed windows
- High parapet walls
- Tie plates
- Lintel over window
- King row every 5 – 7 bricks

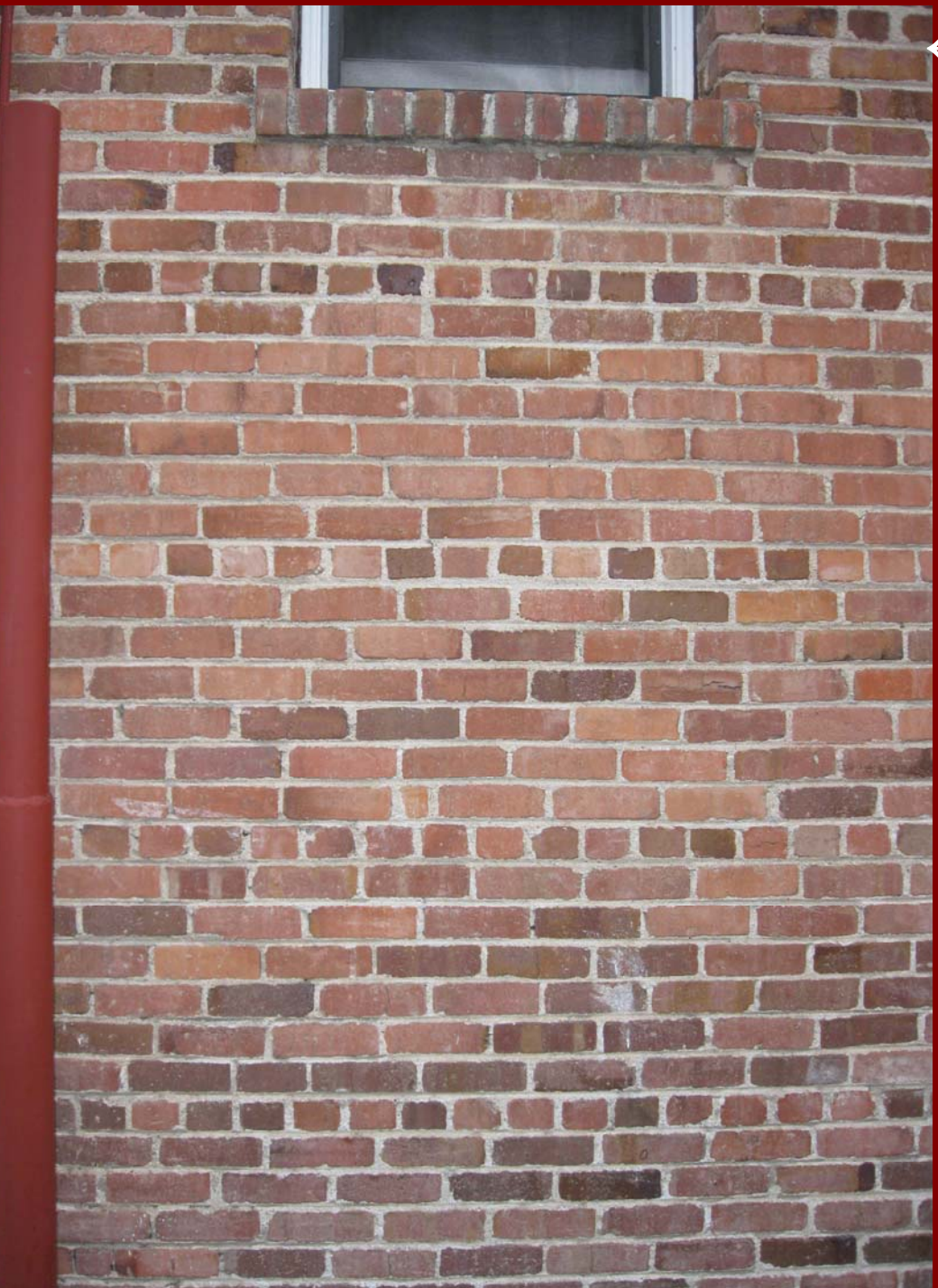
Hazards of URM buildings

- No rebar
- No lime in mortar
- Fire cut beams

Arch over window

Arch over window

Deep reset windows



King Row
Every 5 – 7 rows

Bricks laid on end

Lintel

Horizontal support over a window or door made of steel.

- Fails at 800 – 1200 dgrees
- Only horizontal support for bricks

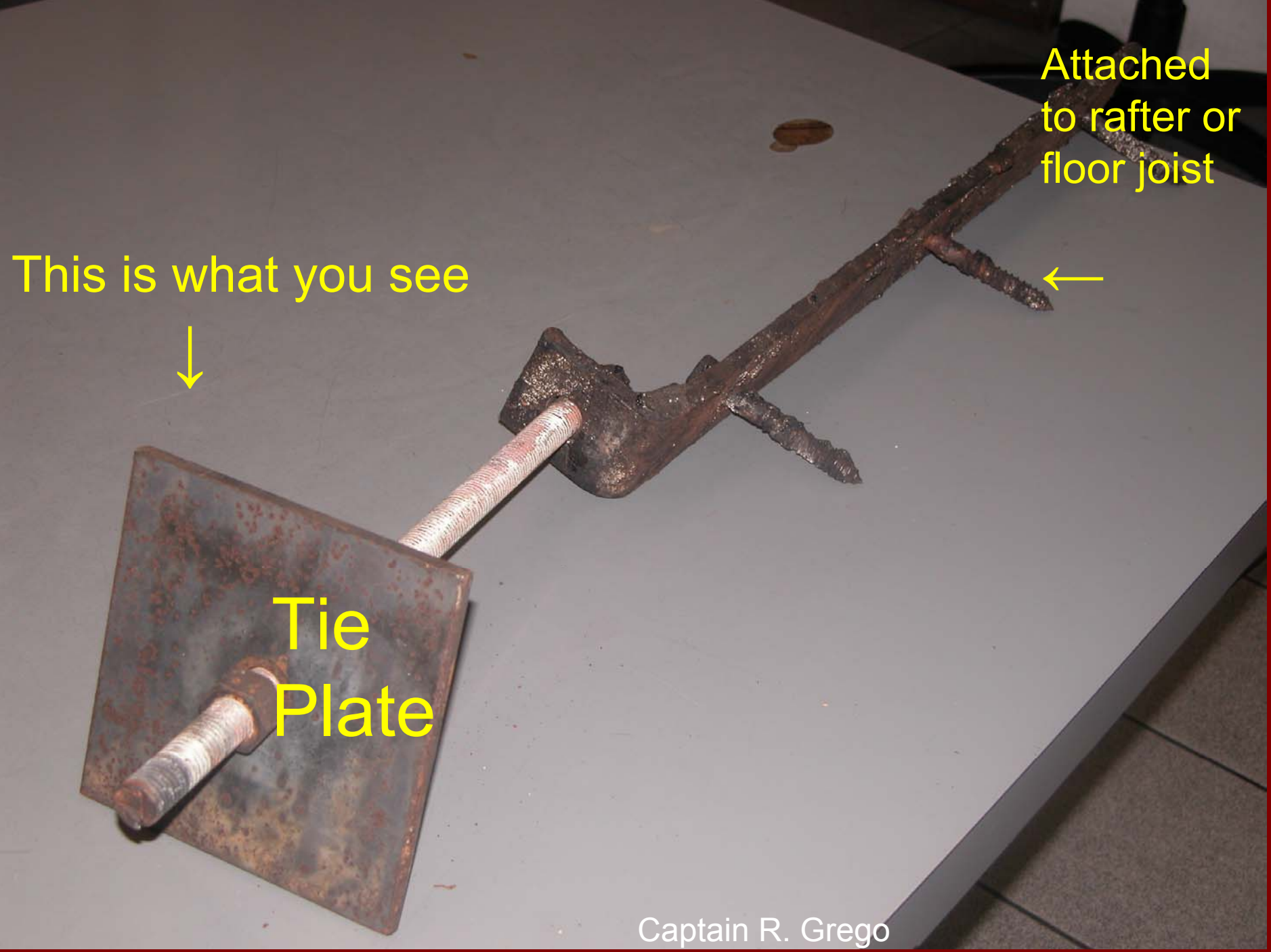
Lintel ↑↑

Lintel ↑↑

Lintel ↑↑

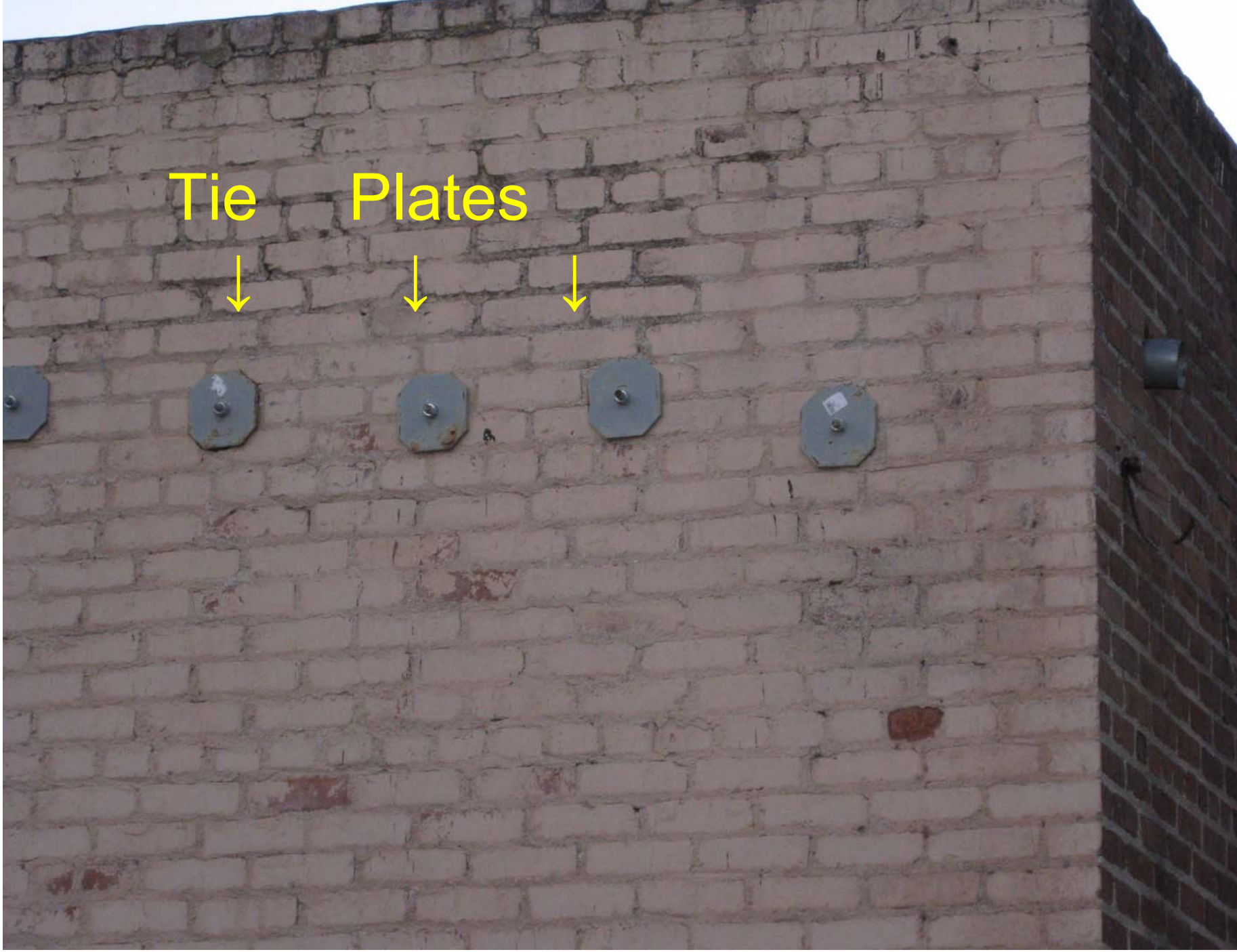
Tie plates

- Tie horizontal floor or ceiling joists to the wall.
- Indicated by “plates” on side of building
- Plates often covered during building retrofit


Attached
to rafter or
floor joist
←
This is what you see
↓
Tie
Plate
Captain R. Grego

Captain R. Grego

Captain R. Grego


Tie Plates

No lime in mortar
↓↓

URM Concrete Bondbeam

Captain R. Grego

URM Wall Thickness

Captain R. Grego

NO
PARKING
IN
ALLEY
1225

BISTRO Laurent

URM Building?

URM Building?

URM?

Imitation URM
No tie plates
No King row
Too new in appearance
Space above window before arch ****
******

Imitation URM

- No King row
- Too new