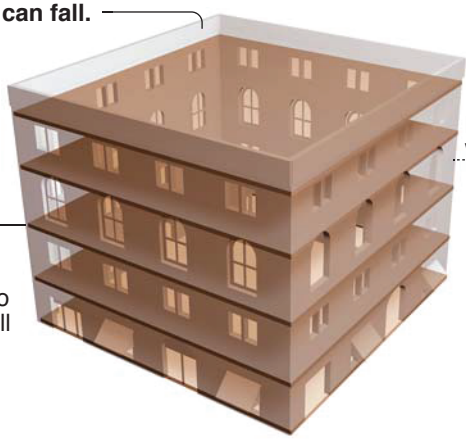
Why old brick buildings can collapse

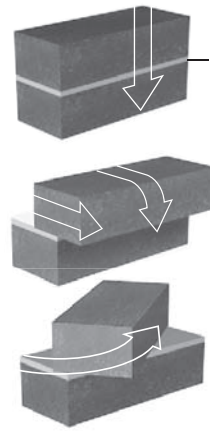
Old brick buildings are among the deadliest structures in an earthquake.

Before an earthquake

Decorative parapets are unbraced and can fall.



Strong brick, weak mortar



Strong

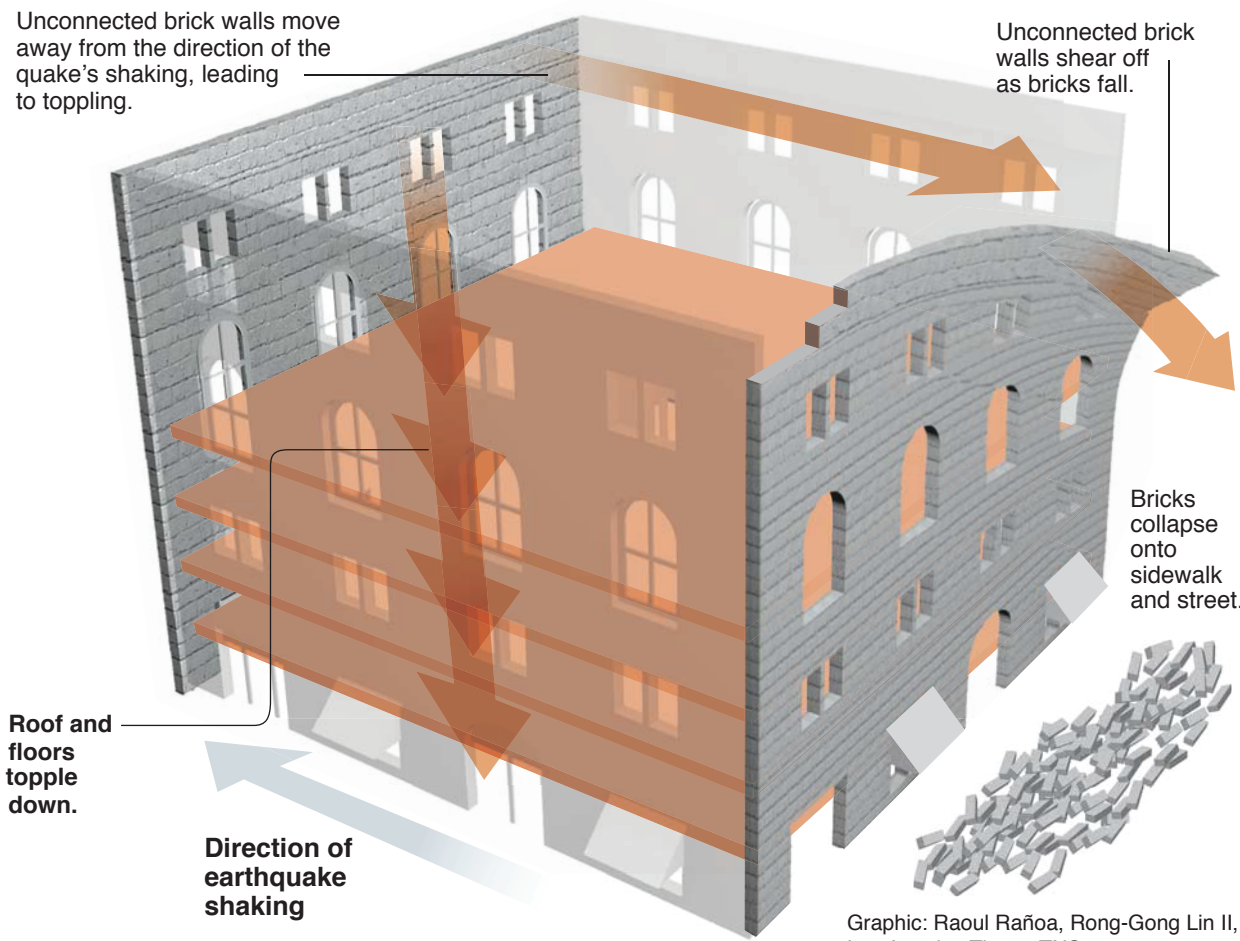
Brick connections are strongest when pressure is applied vertically.

Weak

Mortar essentially crumbles apart during shaking. Brick connections easily fail and can topple when horizontal, bending and torque pressure — which can happen during an earthquake — are applied.

During an earthquake

Bricks in the building's walls can start to topple from the top in an earthquake, especially when the brick wall doesn't have a steel connection to the roof.



Graphic: Raoul Rañoa, Rong-Gong Lin II, Los Angeles Times, TNS

Sources: Structural engineer Saif Hussain, Federal Emergency Management Agency