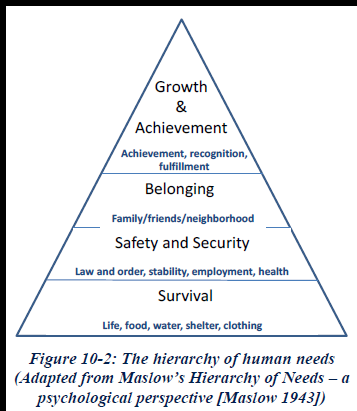


Improving Emergency Preparedness Of The Public, Using Maslow's Hierarchy of Needs

Nicki Pozos, Mike Britch

May 6, 2015



American Water Works Association
Pacific Northwest Section

Outline

Disaster Problem

How People Respond

Maslow's Hierarchy of Needs

Disaster Problem

How People Respond

Maslow's Hierarchy of Needs

Disaster Problem



Water Systems Impacted by Natural Disasters & Manmade Events

- 2005 Hurricane Katrina
- 2012 Hurricane Sandy
- 2013 Colorado flooding
- 2014 Toledo toxic algae
- 2014 West Virginia toxic chemicals
- Cascadia Subduction Earthquake



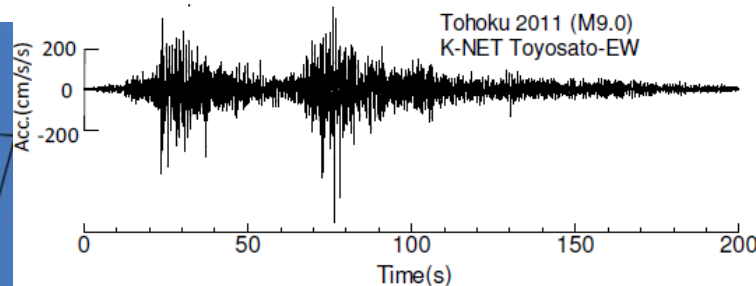
Cascadia Subduction Zone Earthquake Expected to be Similar to Tohoku Japan

M9.0 Earthquake (March 11, 2011)



FEMA

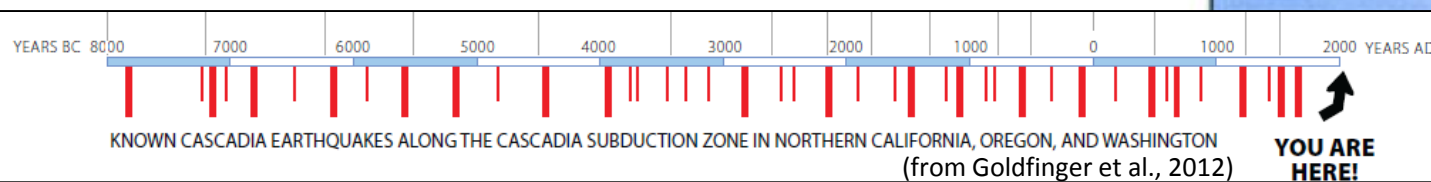
- 16,447 Deaths
- 4,787 Missing
- 5,888 Injured
- 430,000 Homeless
- 111,944 Buildings destroyed
- 637,277 Buildings damaged
- Honshu Island moved 7.8 feet West
- Nuclear power meltdown
- Cost could exceed \$300 billion



Planning Scenario



- 9.0 m. Earthquake
- February 6, 2012 at 9:41 AM PST
- Direct Impact to 3 States, 2 FEMA Regions
- Complete rupture of the 800 Mile Fault Line
- Impacts affecting over 140,000 sq. mi.
- Ground shaking lasts up to 5 minutes
- Numerous aftershocks with several of M7.0+
- 1,100+ Deaths From Earthquake 24,000+ injuries
- 10,600+ Deaths from tsunami & 2,600 injuries

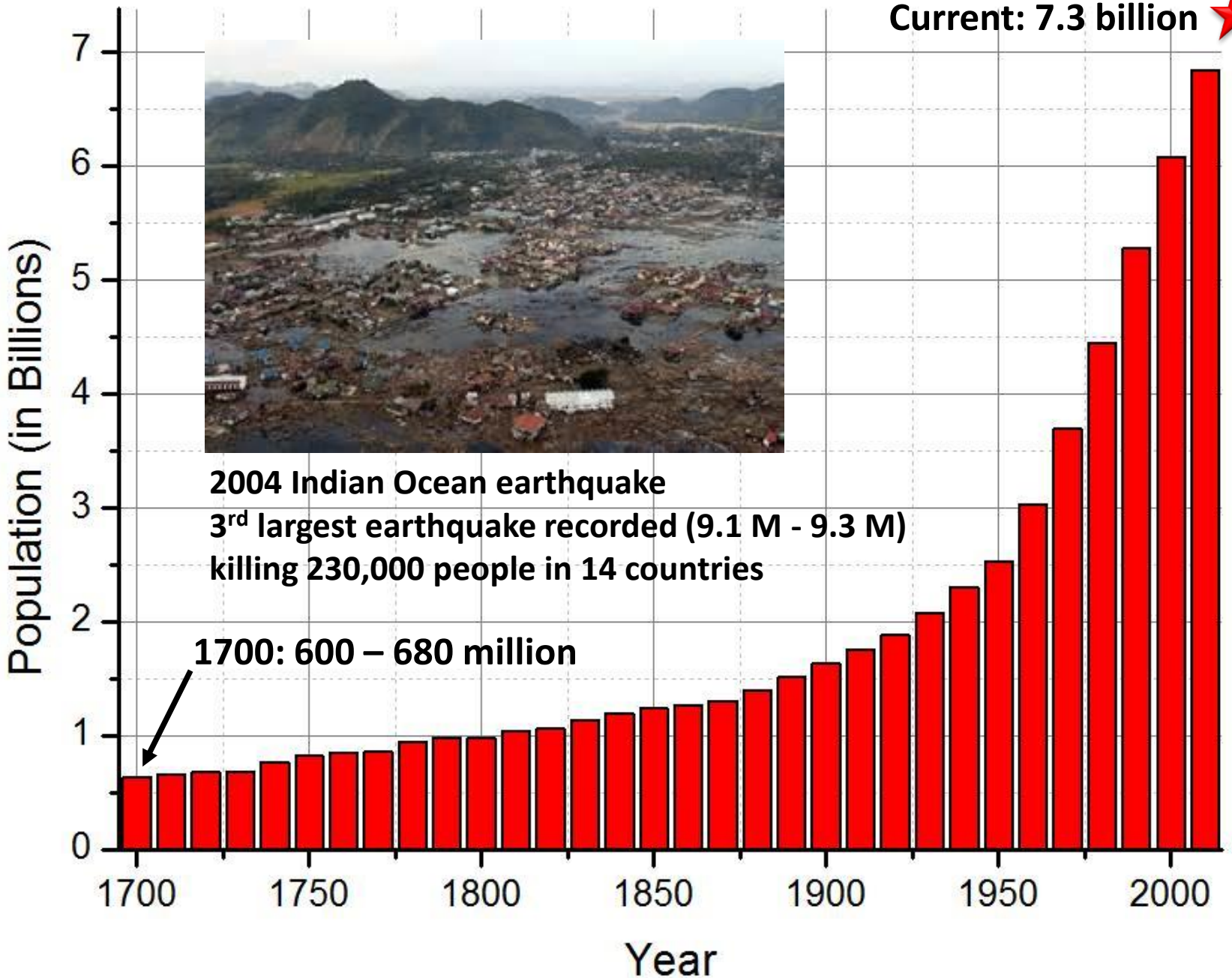


Current: 7.3 billion ★



2004 Indian Ocean earthquake
3rd largest earthquake recorded (9.1 M - 9.3 M)
killing 230,000 people in 14 countries

1700: 600 – 680 million



Disaster Problem

How People Respond

Maslow's Hierarchy of Needs

1964 Alaska Earthquake



"Alaska Quake-Fourth Ave" by U.S. Army - <http://libraryphoto.cr.usgs.gov/>

- **Alaska 9.2 M Earthquake**
- **March 27, 1964, at 5:36 p.m.**

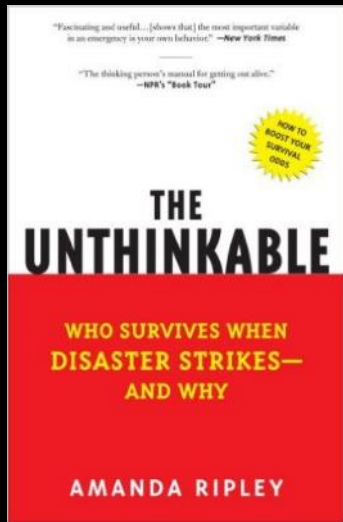
How People Respond



Boil water notice



How People Respond



2004 Indian Ocean earthquake
3rd largest earthquake recorded (9.1 M -9.3 M)
killing 230,000 people in 14 countries

How People Respond



Infrastructure Systems Support the Social & Economic Functions of the Community



Figure 10-1: The social and economic functions of a community define the functional requirements of the community's buildings and infrastructure systems.

**The problem we need to solve is a
“social-technical problem”**

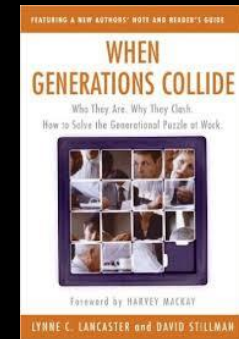
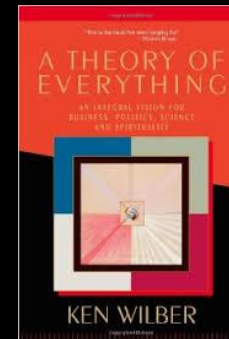
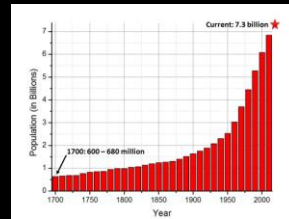
Disaster Problem

How People Respond

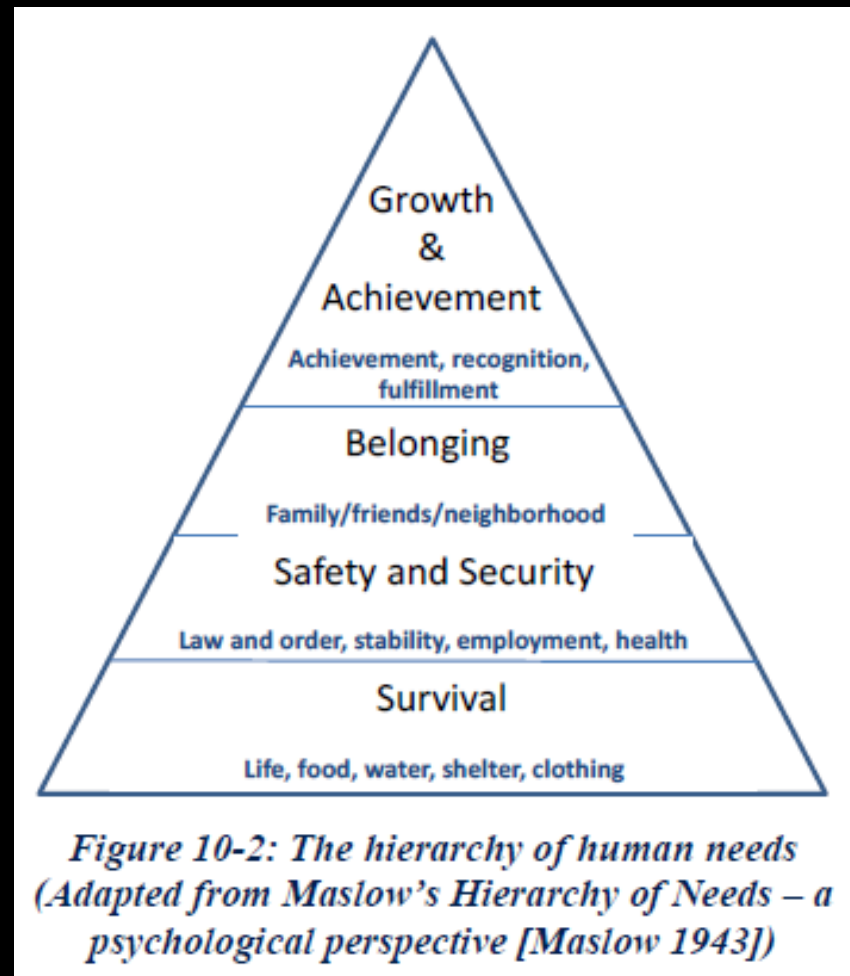
Maslow's Hierarchy of Needs

What Influences How We Think About Things?

- Age (i.e. level of psychological development)
- Level of education
- Cultural bias
- Generational considerations
- Family situation
- Other?



Maslow's Hierarchy of Needs



So who do you think are the easiest people to convince to engage in emergency preparedness?

Growth and Achievement

Belonging

Safety and Security

Survival



MyPatriotSupply.com

**So what level are we
trying to speak to in
emergency planning?**

Growth and
Achievement

Belonging

Safety and
Security

Survival

What level is this speaking to?



Growth and
Achievement

Belonging

Safety and
Security


Survival

*Centers for Disease Control and
Prevention*

What level is this speaking to?

Immunization & Pregnancy

Vaccines help keep a pregnant woman and her growing family healthy.



Growth and
Achievement

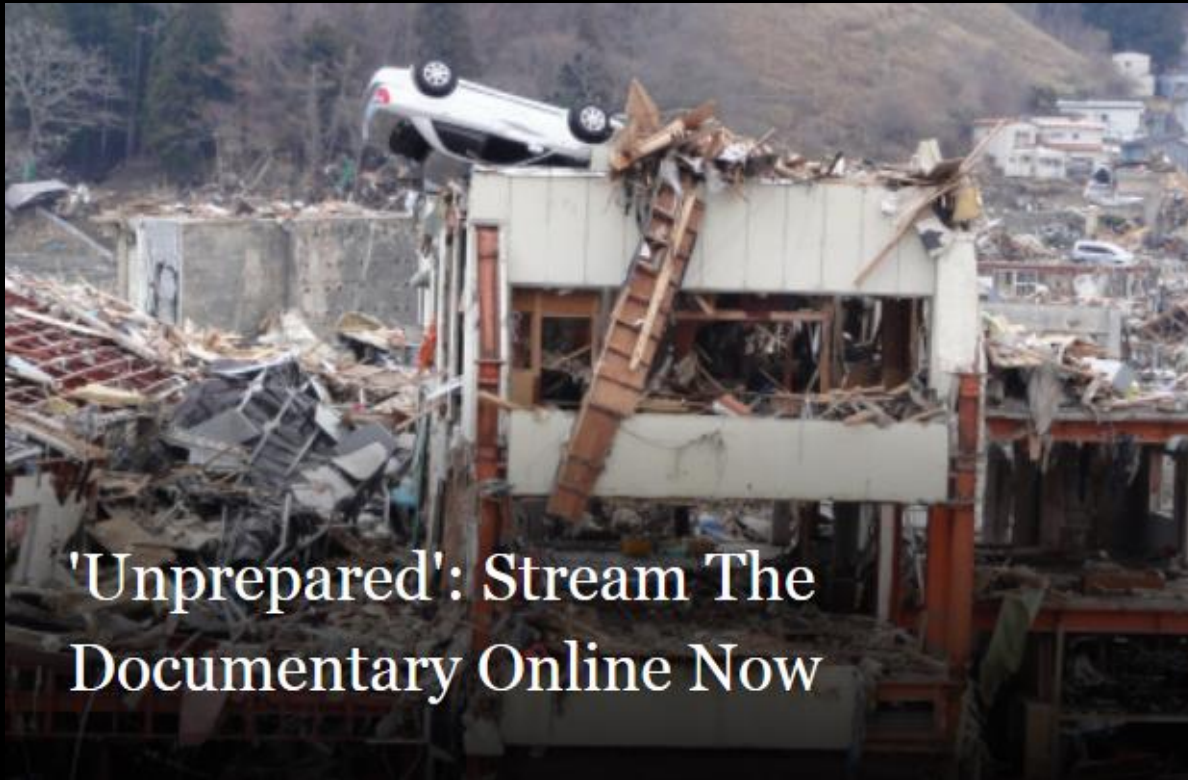
Belonging

Safety and
Security

Survival

*Centers for Disease Control and
Prevention*

What level is this speaking to?



'Unprepared': Stream The
Documentary Online Now

Oregon Public Broadcasting

Growth and
Achievement

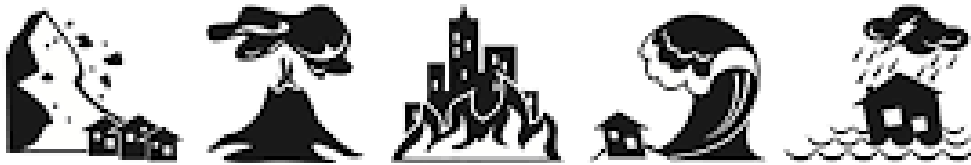
Belonging

Safety and
Security

Survival

What level is this speaking to?

**Ready for an
Emergency?**
You can be.



Lake Balboa Neighborhood Council

Growth and
Achievement

Belonging

Safety and
Security

Survival

What level is this speaking to?



Centerville City

Growth and
Achievement

Belonging

Safety and
Security

Survival

What level is this speaking to?



CommonDreams.org

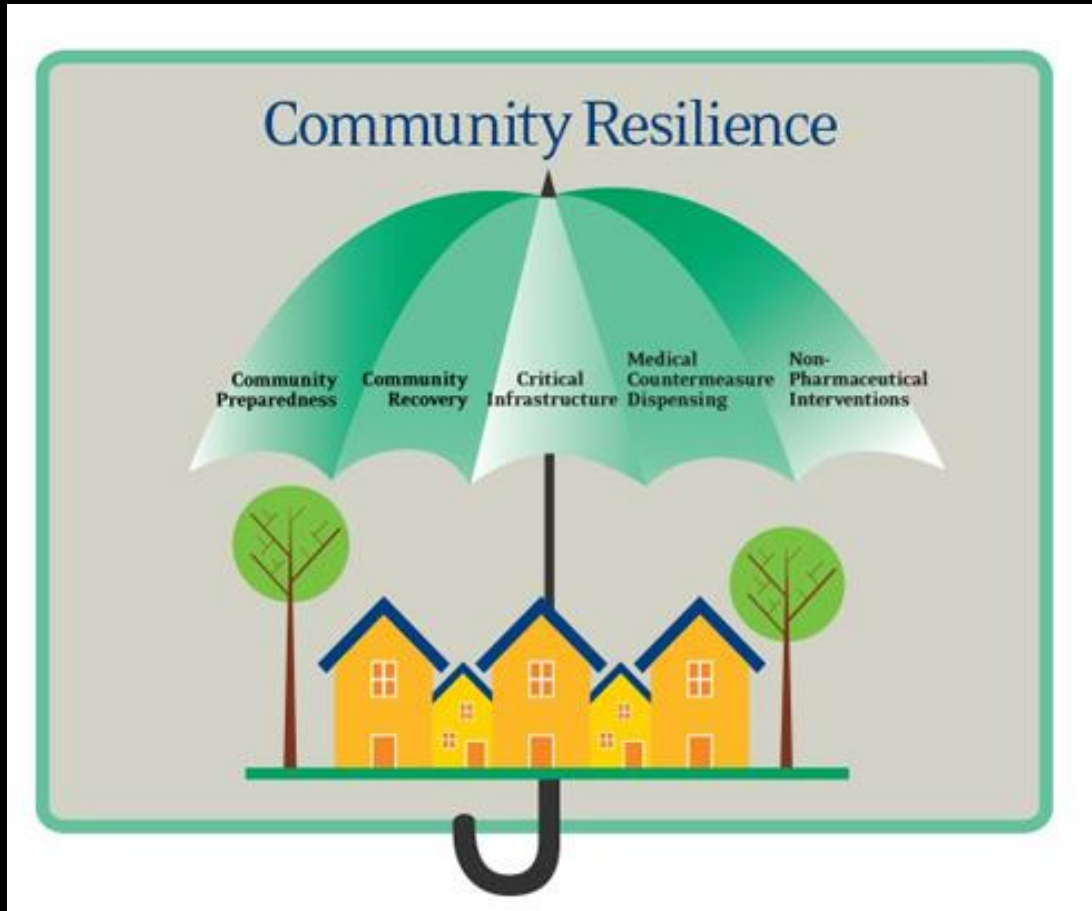
Growth and
Achievement

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Safety and
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Survival

What level is this speaking to?



Growth and
Achievement

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Survival

**How are you communicating
emergency preparedness to your
community?**

What could you do differently?

How Do You Solve the Problem?

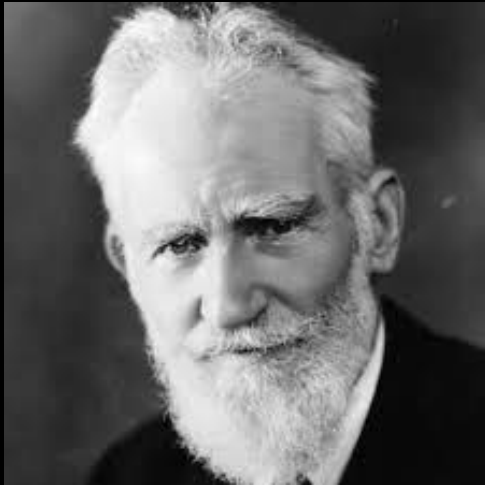


"Don't let the perfect be the enemy of the good" – *Voltaire*

1906 San Francisco Earthquake



How Do You Solve the Problem?



“Progress is impossible without change, and those who cannot change their minds cannot change anything.”

George Bernard Shaw



Prepare Now



Questions

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