

# Uncertain Times

## Changing Principles

Kiyoshi Kurokawa, MD

Pugwash Conference

@Nagasaki









**an inconvenient truth**







**September 1979**



**September 2007**







1983



2007



















# Fukushima Daiichi









جيمز رايت فولي  
James Wright Foley

بي وعائلي وأحبائي أن يقوموا على الحكومة الأمريكية التي قتلتني حقاً





# The Real Weapon of Mass Destruction





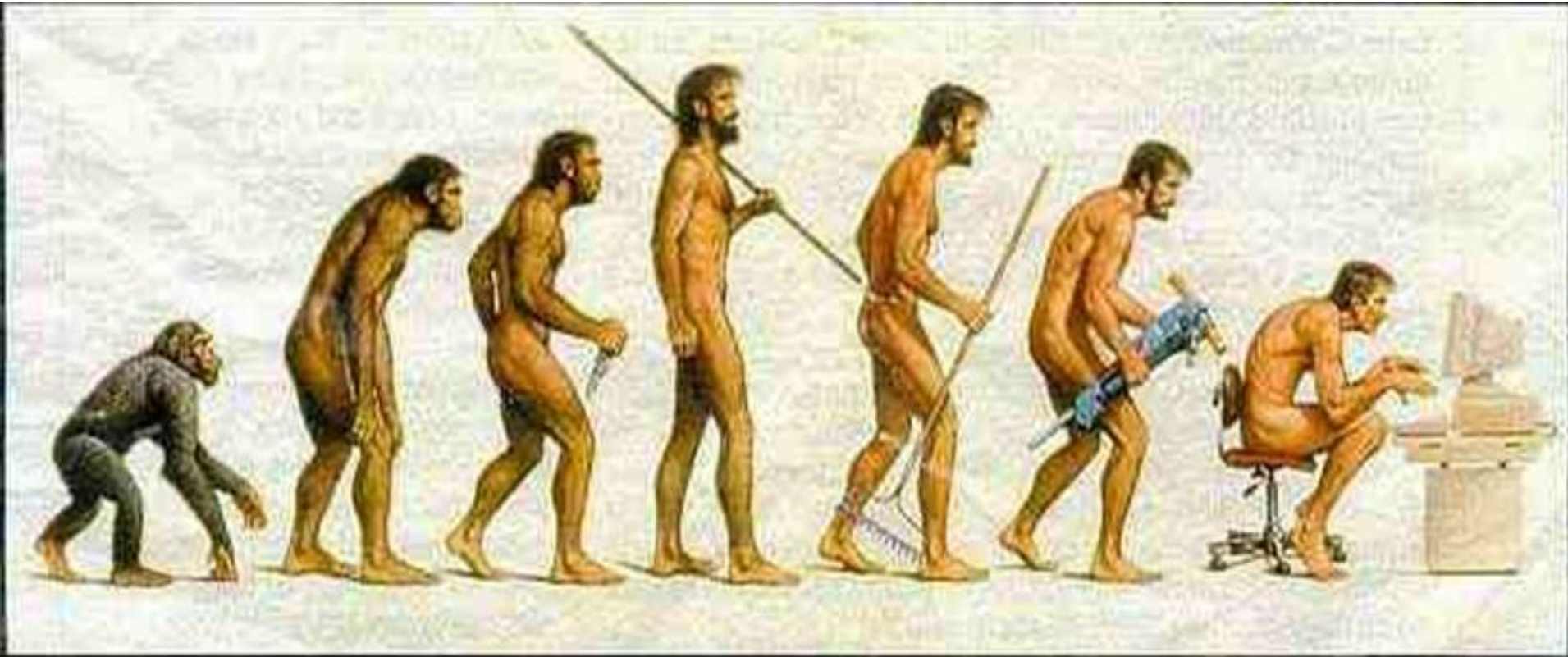








# Alone Together











# *Globalization*

*Inter-dependent*

*Hyper-connected*

*Fragmented and **Fragile***

# *‘Black Swan Events’*

*2001.09.11*

*2008.08.15*

*2010.12.18*

*2011.03.11*



# Fukushima Daiichi



The accident exposed in a flash -quite literally- the worst traits of 'old Japan', with its elitist and secretive bureaucratic culture.

David Pilling,  
Bending Adversity; Japan and the Art of  
Survival, Chapter 14



Independent Investigation Commission of  
Fukushima Nuclear Accident  
by the National Diet

<NAIIC.go.jp>

NAIIC Core Message

‘Regulatory Capture’



‘Mind-set’ of ‘Japanese’

Groupthink

Transparency/Openness

Accountability

Obligation to Dissent

# ◆ Lessons Learned from NAIIC

## Apparent Causes:

- ◆ Insufficient Defense-in-Depth
- ◆ Lack of Systematic Knowledge Management/Transfer
- ◆ Lack of Safety Consciousness
- ◆ Regulatory and Academic Capture

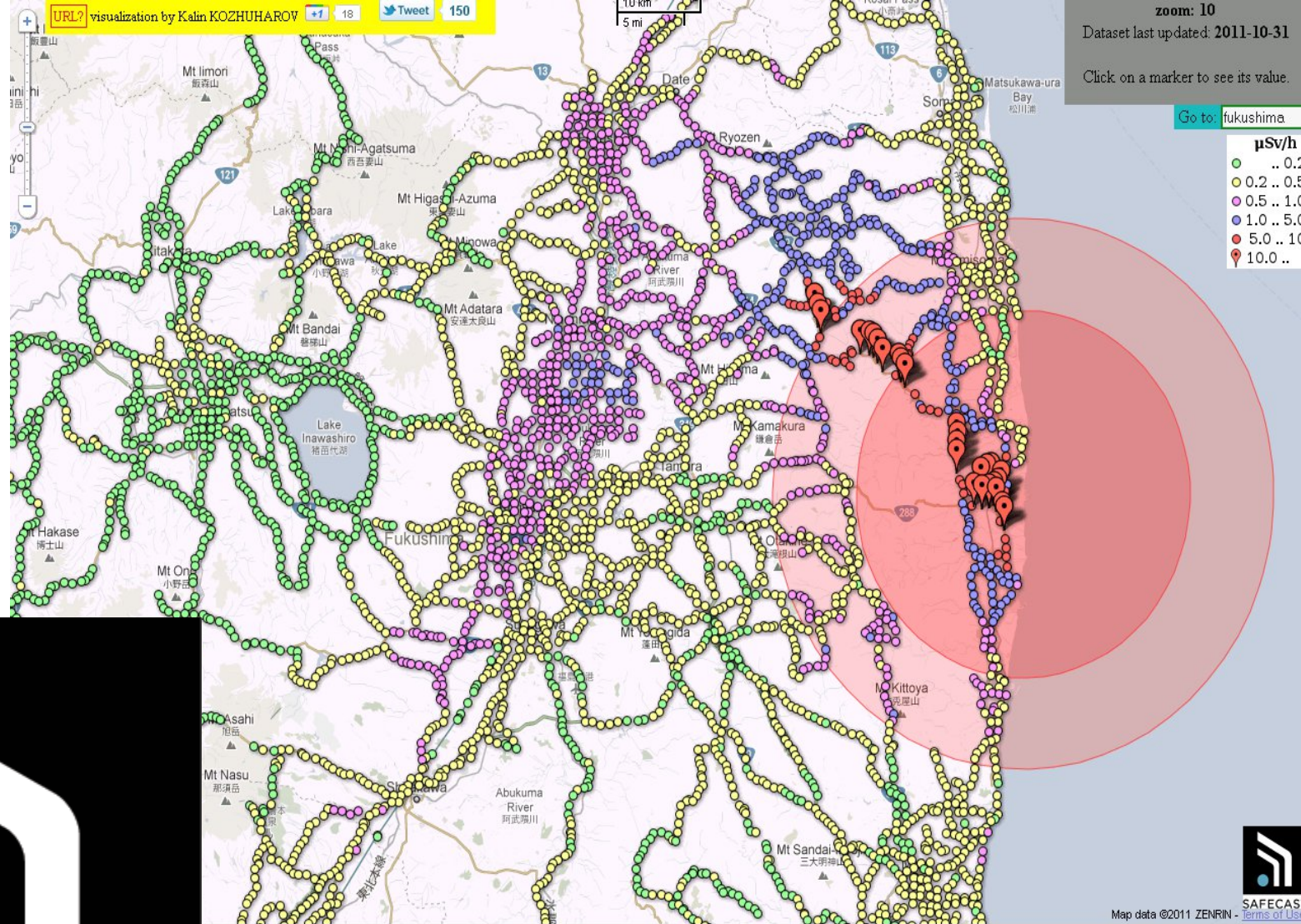
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## Root Causes:

- ◆ Lack of Learning/Questioning Attitudes
- ◆ Poorly-Developed 'Safety Culture'
- ◆ Complacency, 'Mindset'
- ◆ Closed Mono-Cultured Community
  - ◆ 'Groupthink'







SAFECAS

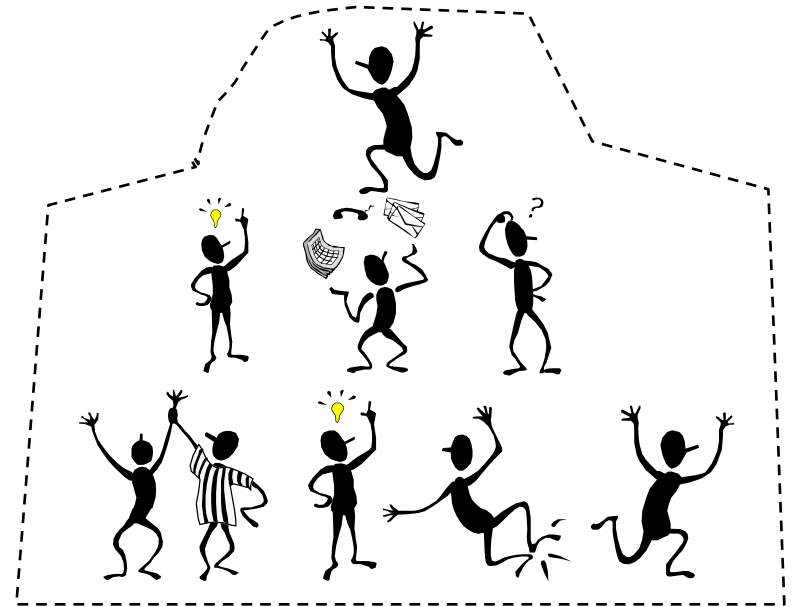
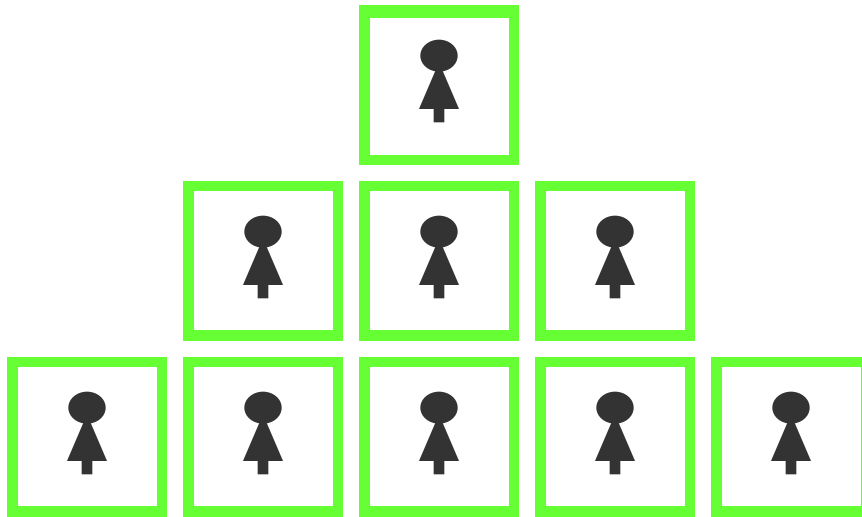
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Most others; Order by the function

Japan: Order by the structure



Less inequality  
Convoy system

Upper limit



chances

Lower limit



risks

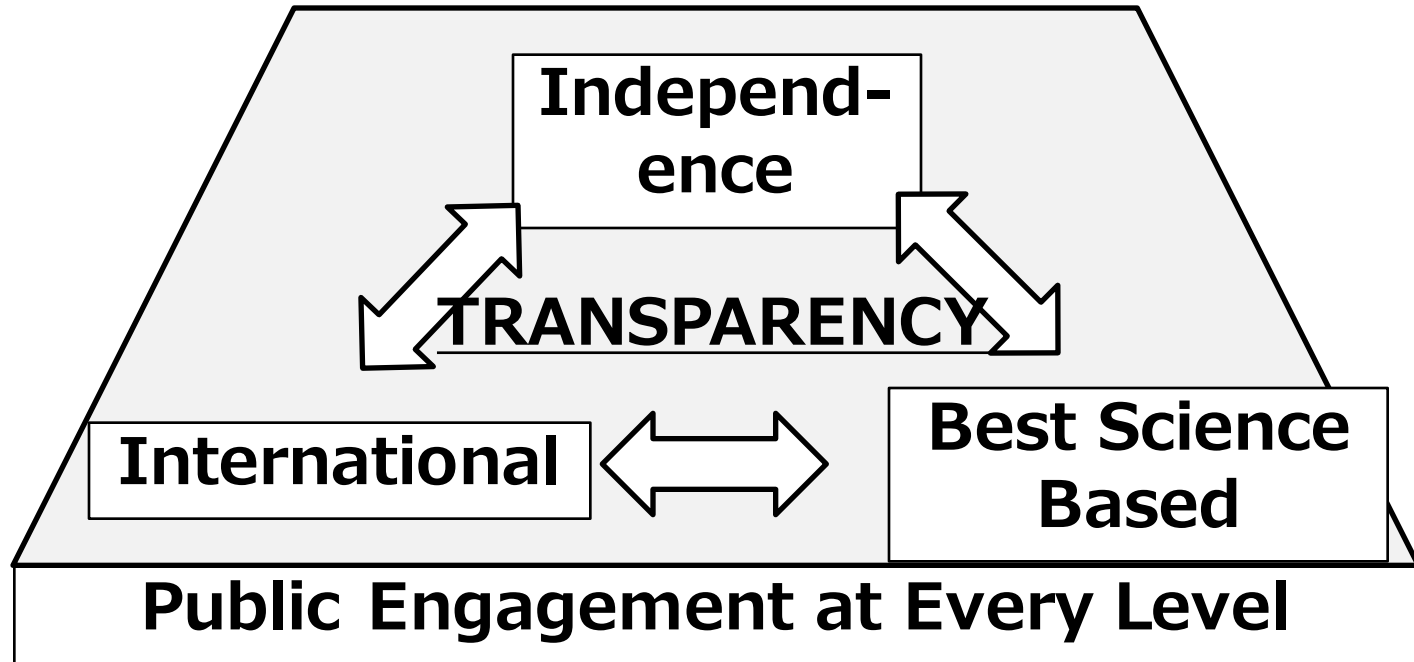
More inequality

Risk-taking and Competition

# Rebuilding Trust

~Transparency and Global Partnership~

## 1. Process of Governance of Nuclear Policy



## 2. Partnership with the World

- International Standard of Regulation
- Partnership with World Regulatory Bodies
- Exchange, Training and Nurturing of World Professionals



Richard Samuels, 2013

US GAO, 2014

IAEA, 2014

US NAS, 2014

David Pilling, 2014

