

Risks beyond Covid-19

If humanity wasn't prepared for Covid-19,
What else aren't we prepared for?

Why aren't we better prepared?

How can we **change our systems**
so we're better prepared for future **risks** / **opportunities**?

Tues 7th Apr 2020
7pm UK time



londonfuturists.com

Webinar moderated
By David Wood

#LonFut

www.millennium-project.org/publications-2-3/



“State of the Future”

From the 1997 report:

ISSUE 4 (of 15)

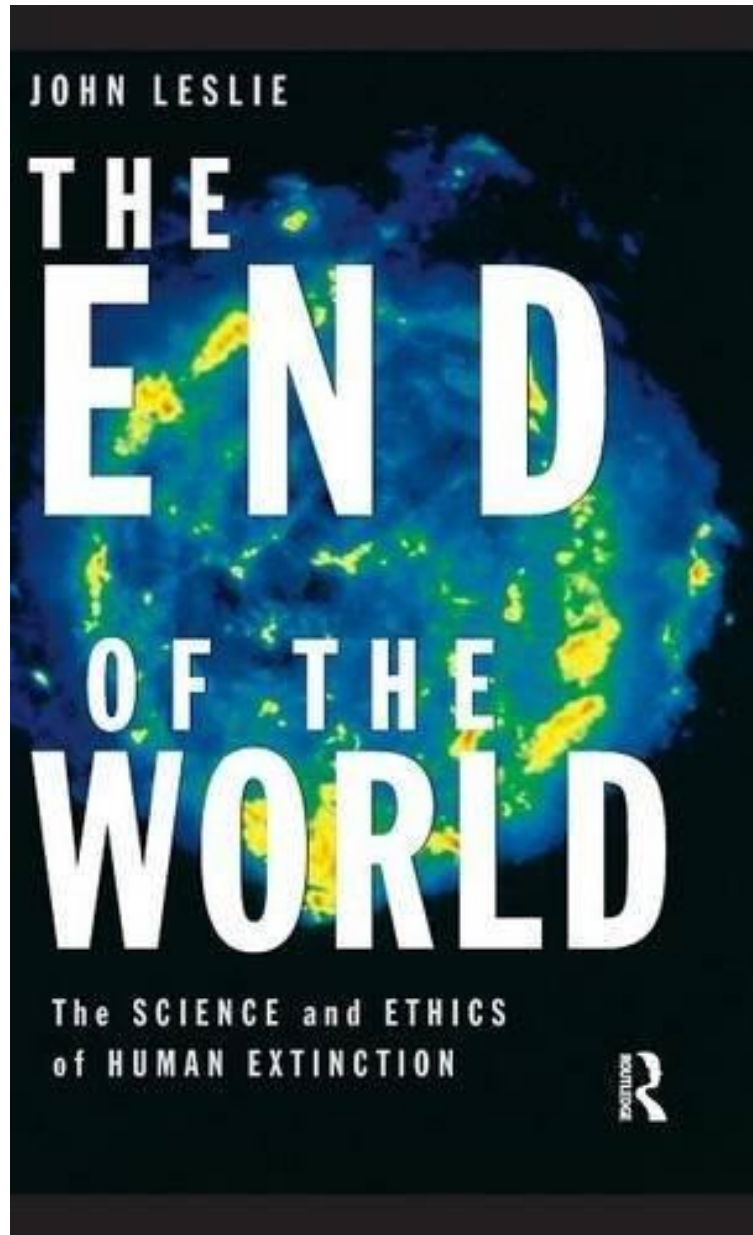
“The threat of new and re-emerging diseases & immune micro-organisms is growing...

“Increasing **mass migrations** and **international travel** spread disease more rapidly than in the past; increasing **urbanization** and **population density** accelerate and intensify this issue...

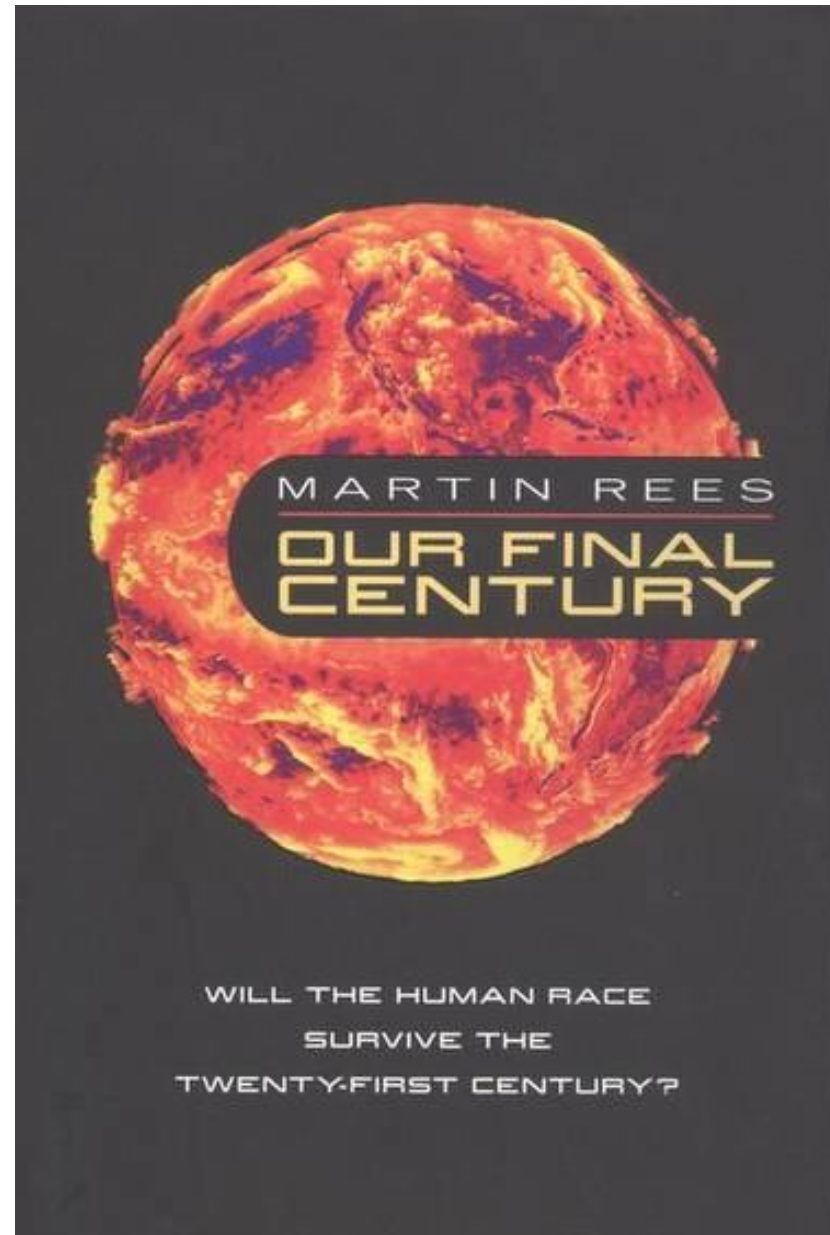
“It is a trend that **holds the capacity to bring life as we know it to a grinding halt...**”



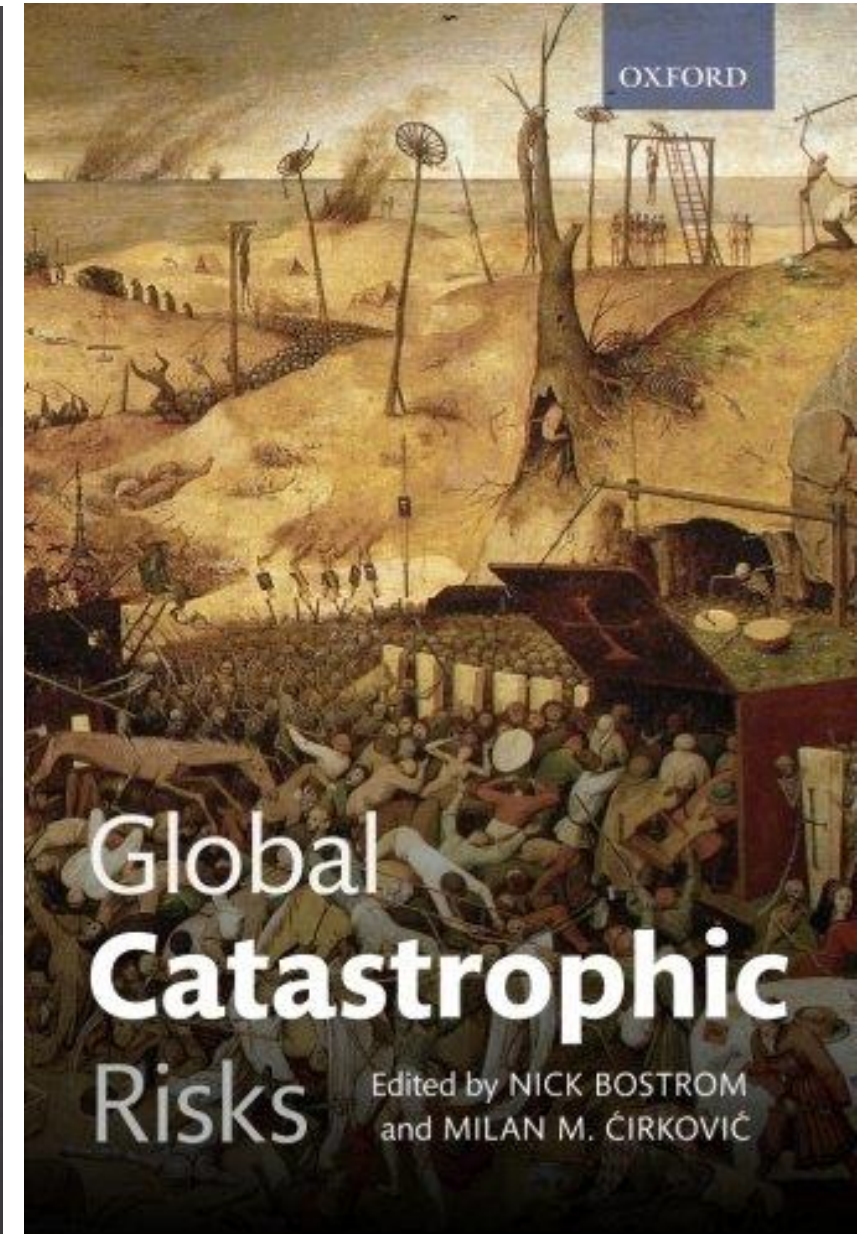
1996



2003



2008





Founded 2014
Boston

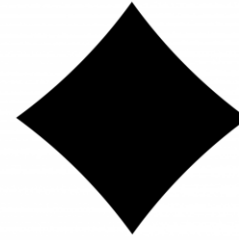
futureoflife.org



CENTRE FOR THE STUDY OF
EXISTENTIAL RISK

www.cser.ac.uk

Founded 2012
Cambridge

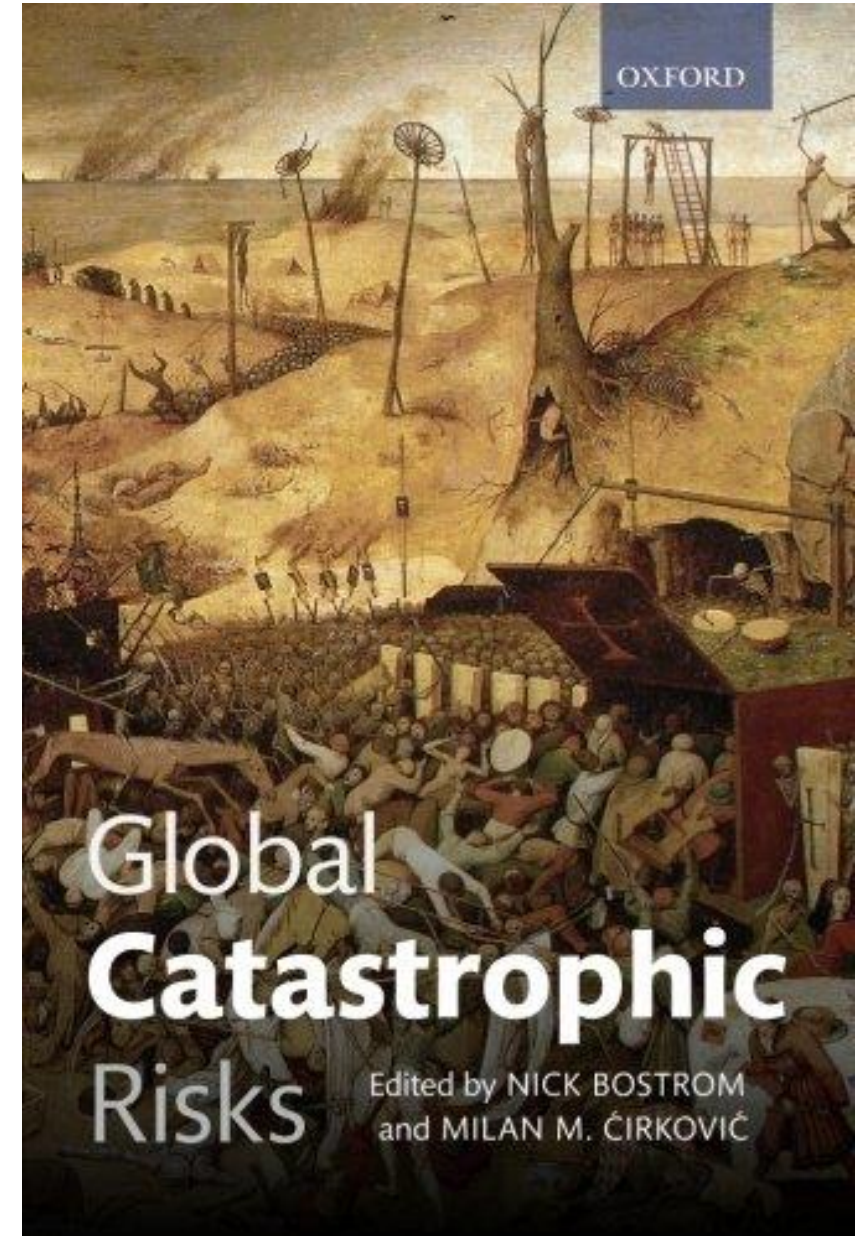


Future
of Humanity
Institute

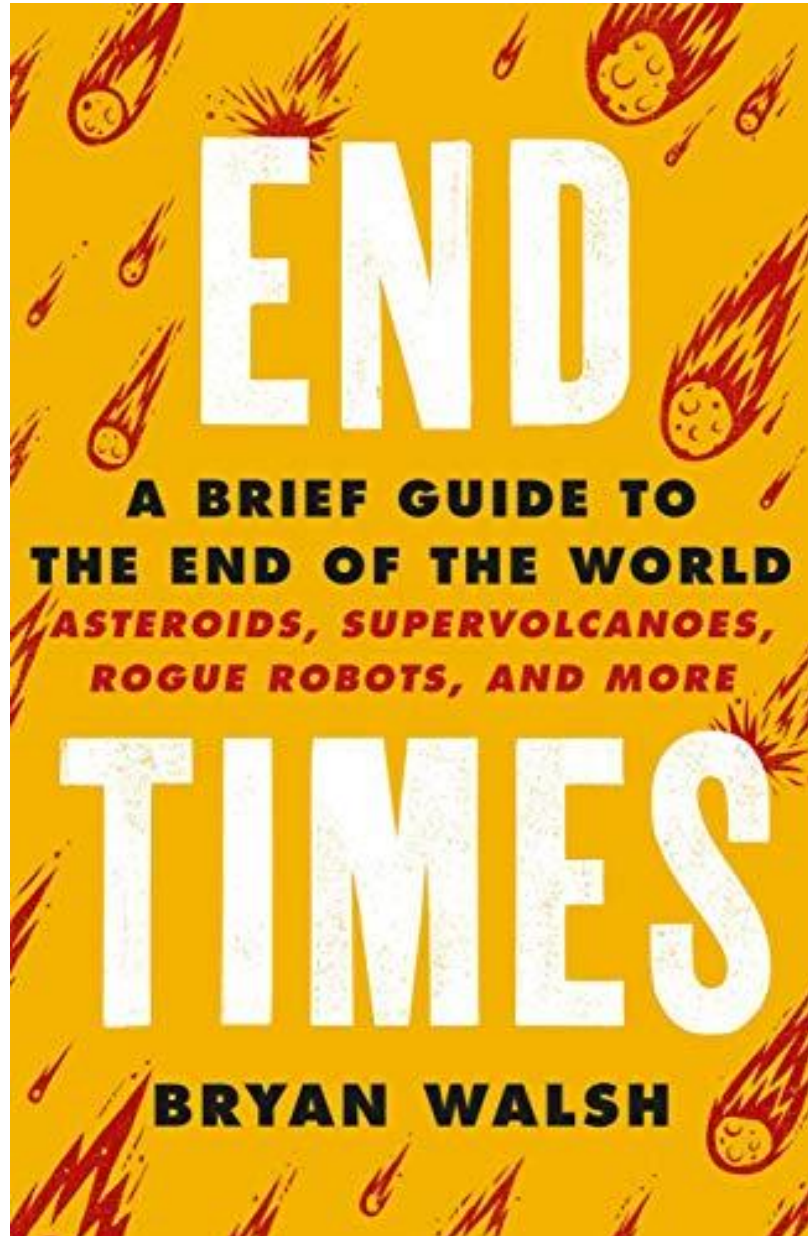
UNIVERSITY OF OXFORD

Founded 2005
www.fhi.ox.ac.uk

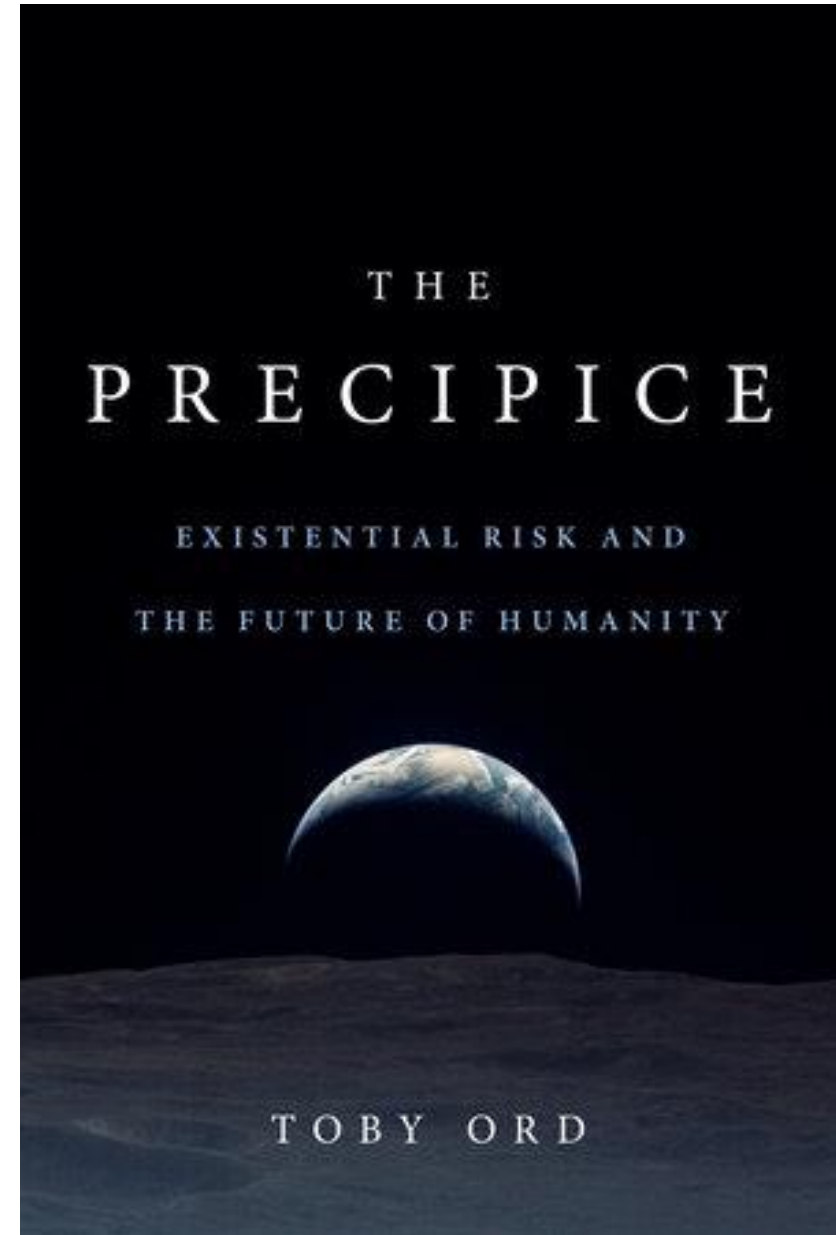
2008



Aug 2019

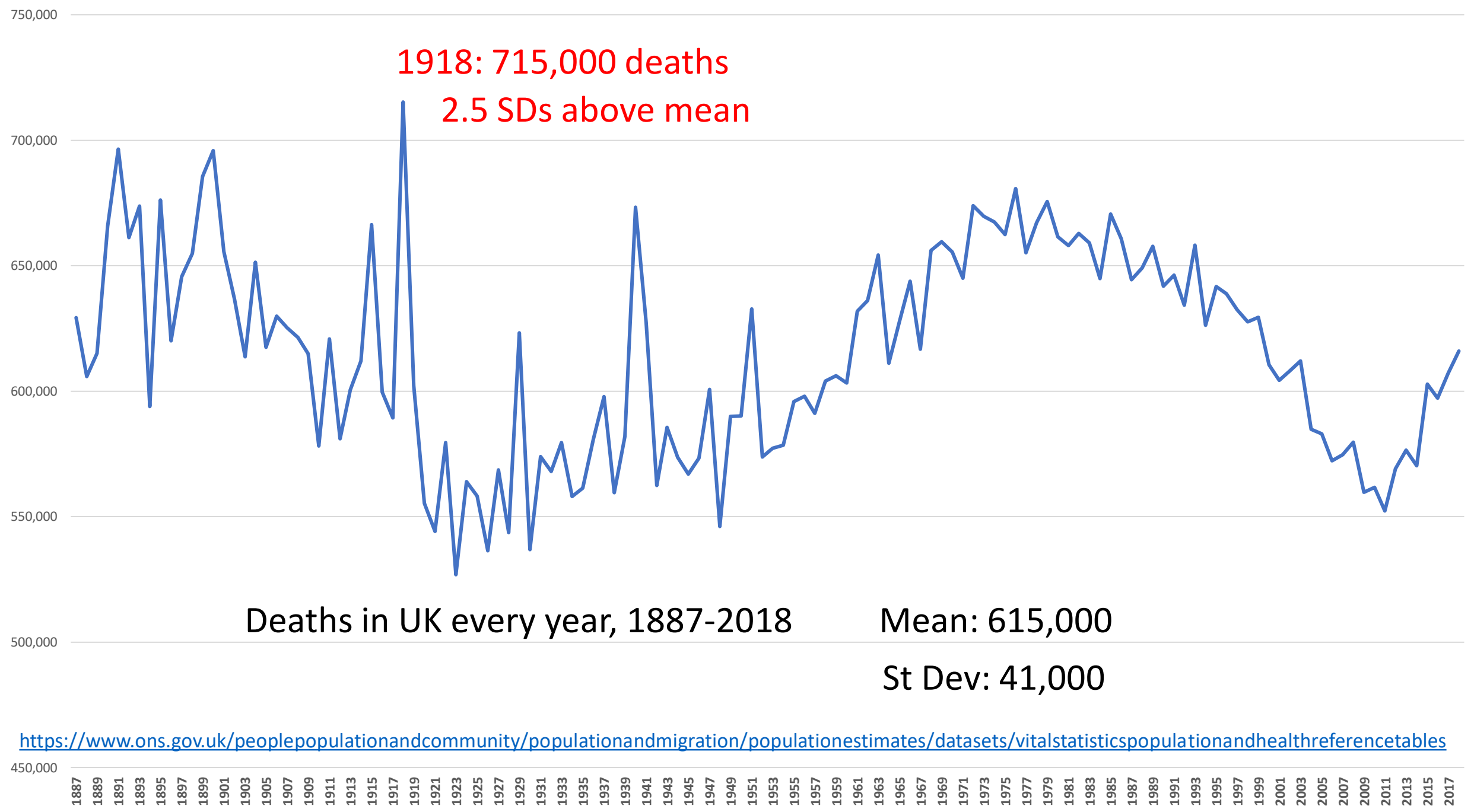


Mar 2020



Sources of risk: three categories

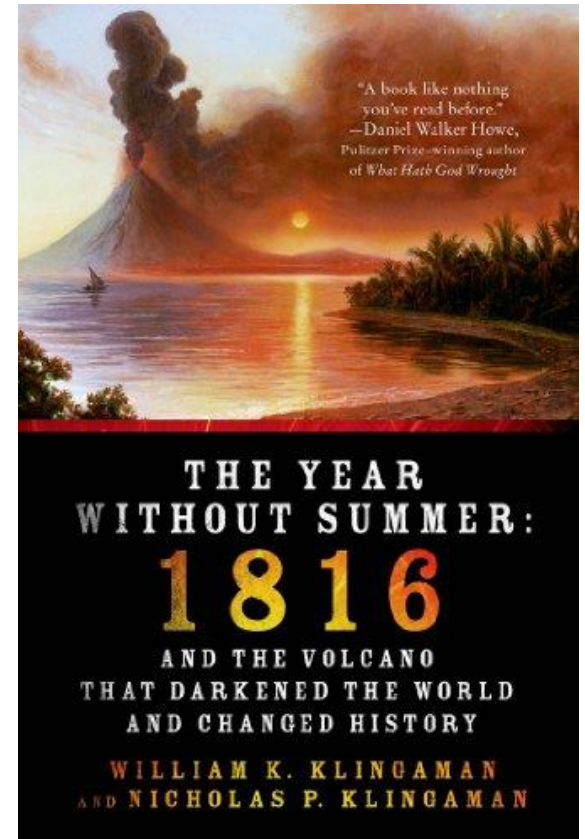
1. Natural: Not caused by humans
2. Caused by humans
 - involving technology that already exists
3. Caused by humans
 - involving technology developed in the future



Which historical episodes should be highlighted?

- 1914-1918 First World War?
- 1918-1919 Flu pandemic that killed more people?
- 1803-1815 Napoleonic Wars?
- 1816?
 - “The Year Without A Summer”
 - “Eighteen Hundred And Froze To Death”
 - Major food shortages throughout northern hemisphere
 - April 1815 volcanic eruption, VEI-7
Mount Tambora, Indonesia

Volcanic
Explosivity
Index



Major volcanic eruptions

- 1815: Tambora, Indonesia (VEI-7)
- 1980: Saint Helens, United States (VEI-5)
- 1991: Pinatubo, Philippines (VEI-6)
- “The worst year to be alive”?
 - 0536 according to historian Michael McCormick
 - Start of the coldest decade in the past 2300 years
- 74,000 BCE: Toba, Indonesia (VEI-8)
 - 2,800 times as much material ejected as Saint Helens
 - By some estimates, humanity almost went extinct



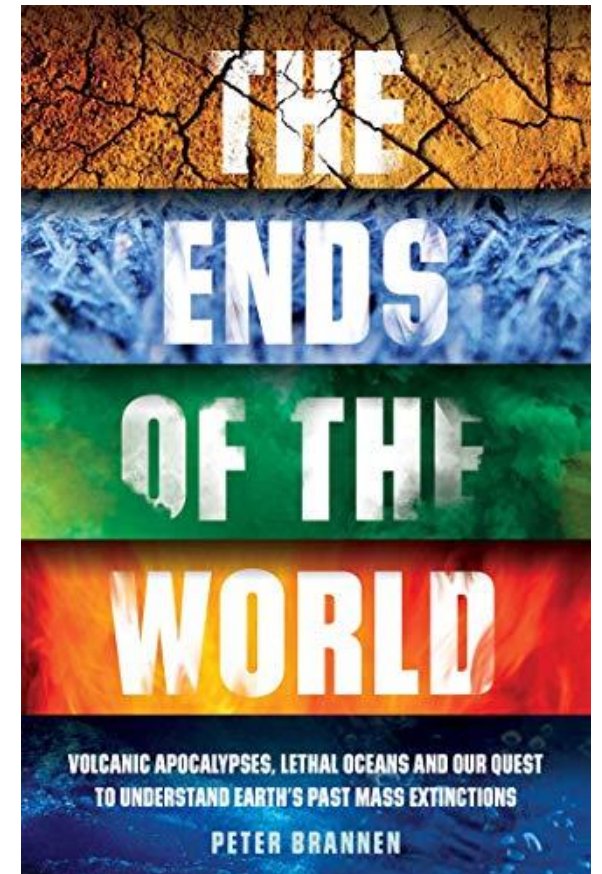
“Civilization exists by geological consent,
subject to change without notice”

Will Durant
Historian
and philosopher



By Peter Brannen (2017):
Volcanic Apocalypses, Lethal Oceans and Our Quest
to Understand Earth’s Past **Mass Extinctions**

- About **20** active supervolcanoes known
- Yellowstone is probably most famous
- Last supereruption 640,000 years ago
- Per century: 1/7,000 chance of supereruption



Types of risk: “natural”

- Supervolcanoes (e.g. in Yellowstone National Park)
- Reversal of magnetic poles
- Major solar discharge (like 1859 Carrington Event)
- Asteroids (like extinction of dinosaurs) or comets
- Gamma ray bursts from remote stars
- New ice age: “snowball earth”?

Overall probability of natural existential disaster:

- Per century: Less than 1/2,000

Types of risk: “human (today’s tech)”

- Nuclear explosions -> Nuclear winter
 - Lethal Autonomous Weapon System malfunction
- Climate change -> Positive Feedback -> Mass extinction
- Other environmental stresses
- Plagues (including antibiotic resistant infections)
- Financial contagion -> Economic & social collapse
- Infrastructure breakdown (e.g. rampant malware)
- 1984 and/or Brave New World (fear / amusement)

Types of risk: “human (future tech)”

- High energy physics with unexpected results
- Geo-engineering gone wrong

1/30

2= • Bio-engineered pathogens (“gain-of-function”)

- WMDs in hands of groups like Aum Shinrikyo
- Nano-pollution or nano-replicators
- Brain-hacking used for ill purposes

Total: c. 1/6

1 • Super AI misaligned with human flourishing

1/10

1/30

2= • Unknown risks from technology we don’t yet know

How to prioritise?

- Probability: More likely to happen
- Scale: More people killed
- Neglected: Relatively little attention on it at present
- Tractable: Something can be done about it

Consider not just “risks” but also “risk factors”

- Factors that make more than one risk more likely

Ignorance Irrationality Wars Recessions...

Education Reason Collaboration Prosperity...

Unwillingness to think seriously about existential risks

Queen Elizabeth II asked LSE economists why no one had predicted the credit crunch

Why
risks lack
attention

Crunch
2008



A “**feelgood factor**” which
“masked how out-
of-kilter the world
economy had
become **beneath
the surface**”

A “**psychology of
denial**” that
“gripped the
financial and
political world”

Over-trust in “**financial wizards**” who “managed to convince themselves and the world’s politicians that they had found clever ways to spread risk throughout financial markets”

<https://www.theguardian.com/uk/2009/jul/26/monarchy-credit-crunch>

Why risks lack attention

1. **Over-optimism bias:** *Needed: constructive pessimism*
 - Optimists are generally more successful than pessimists
2. **Short-term bias: 5 year election cycles, Q'ly business reports**
3. **Risk mitigation is a “public good”** *Needed: future advocates*
 - Benefits apply to everyone *Needed:*
 - Each individual is loathe to bear the cost alone *government action*
 - Each *country* is loathe to bear the cost alone
4. **Risk mitigation might involve global coordination** *Needed:*
 - “World government” is a concept widely feared *lean international*
 - Loss of sovereignty?! *coordination*
5. **Risk mitigation might involve slowing tech progress** *Needed:*
 - No country wishes to be left behind in a tech race *risk management framework*

Risk management framework

1. **Scenario analysis in advance**
 - Insights from multiple disciplines & diverse perspectives
2. **Constant monitoring**
 - For any developments different from what was expected
3. **Spirit of openness and transparency**
 - Value data over ideology, transcending tribal instincts
4. **Rapid response capability**
 - Reserve storage (extra capacity); Agile systems
5. **International funding: similar to existing WHO**
 - New bodies may be created after crisis (like UN after WW2)
6. **Effective communications (psychologically informed)**
 - Vivid, credible, open: to maintain and engage public support

Framework for understanding Global Change: 15 Global Challenges



The Millennium Project

How can sustainable development be achieved for all while addressing global climate change?

November 2015

2 How can everyone have sufficient clean water without conflict?

15 How can ethical considerations become more routinely incorporated into global decisions?

3 How can population growth and resources be brought into balance?

14 How can scientific and technological breakthroughs be accelerated to improve the human condition?

4 How can genuine democracy emerge from authoritarian regimes?

13 How can growing energy demands be met safely and efficiently?

5 How can decisionmaking be enhanced by integrating improved global foresight during unprecedented accelerating change?

12 How can transnational organized crime networks be stopped from becoming more powerful and sophisticated global enterprises?

6 How can the global convergence of information and communications technologies work for everyone?

11 How can the changing status of women improve the human condition?

7 How can ethical market economies be encouraged to help reduce the gap between rich and poor?



10 How can shared values and new security strategies reduce ethnic conflicts, terrorism, and the use of weapons of mass destruction?

How can the threat of new and reemerging diseases and immune microorganisms be reduced?

9 How can education make humanity more intelligent, knowledgeable, and wise enough to address its global challenges?

Slide 12 of 30

Existential
Opportunities too!

Conclusions

Cabinet post:
Minister for the
Future

Risk Management Framework

1. Scenario analysis in advance
2. Constant monitoring
3. Spirit of openness and transparency
4. Rapid response capability
5. International funding: similar to existing WHO

6. Effective communications (psychologically informed)

But without losing
focus on individual
existential risks

Steps to reduce risk factors as well as individual risks

- Education, reason, collaboration, prosperity, **courage**