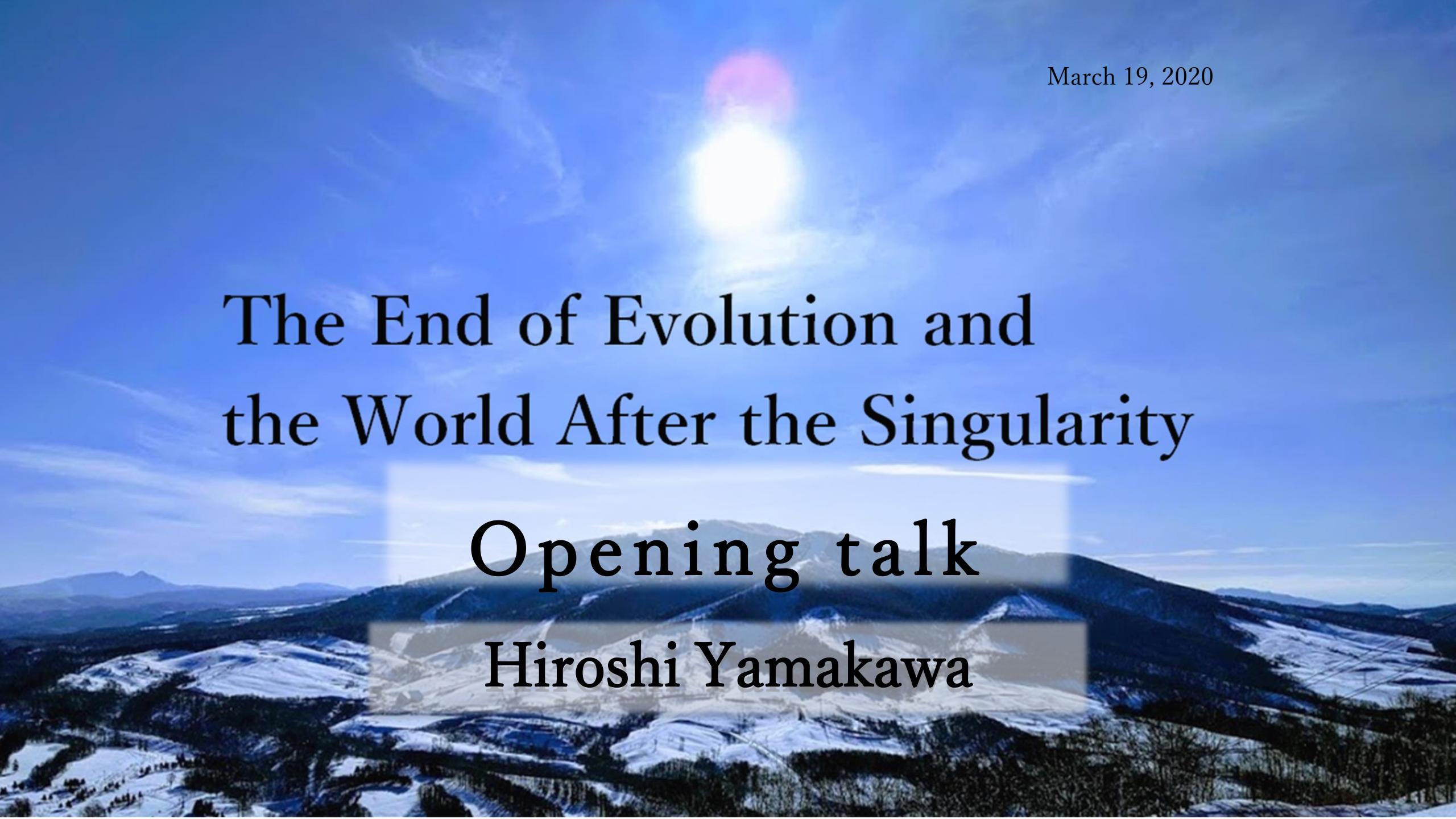


March 19, 2020

The End of Evolution and the World After the Singularity

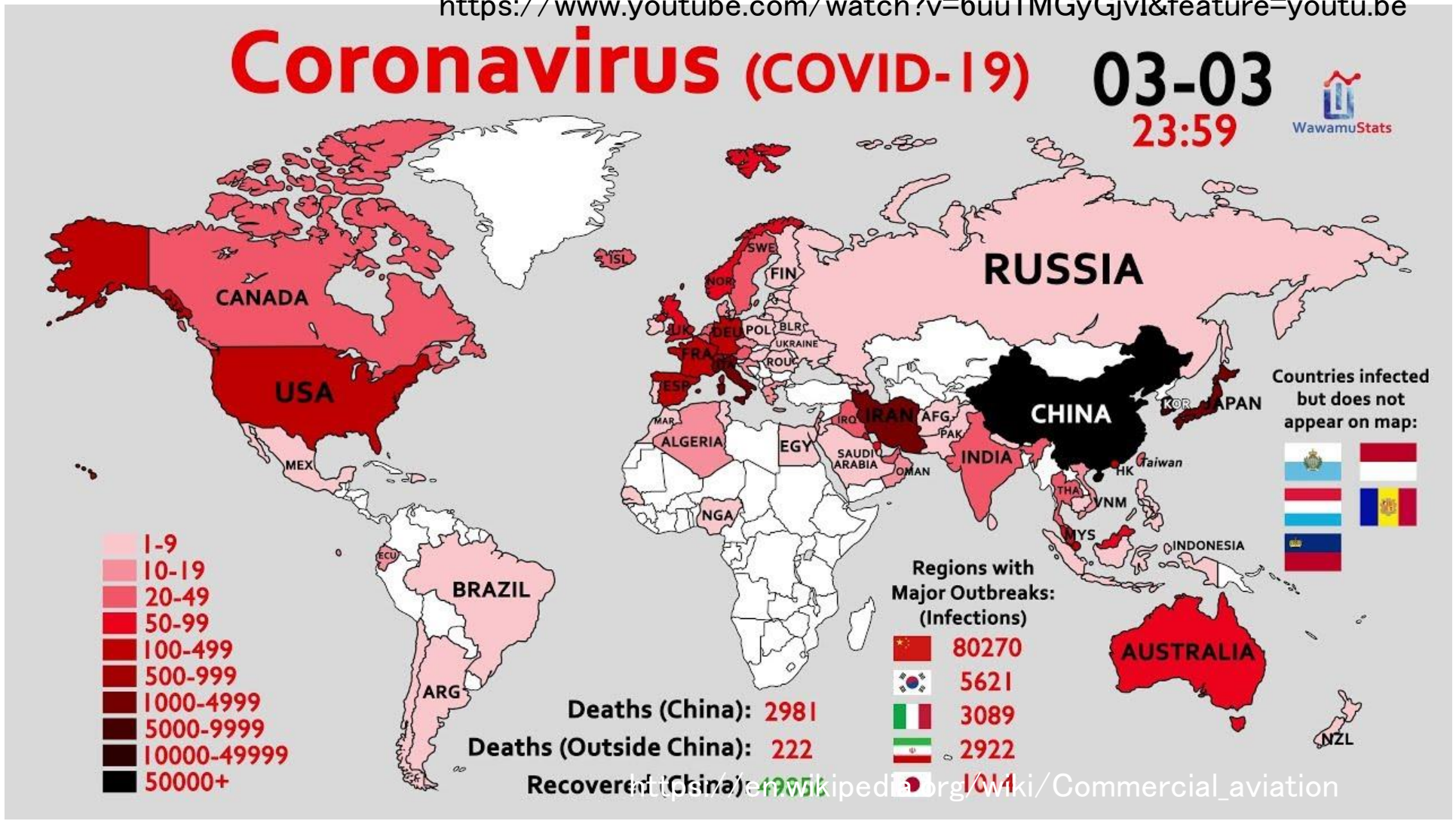
Opening talk

Hiroshi Yamakawa


Evolution

The world without locality

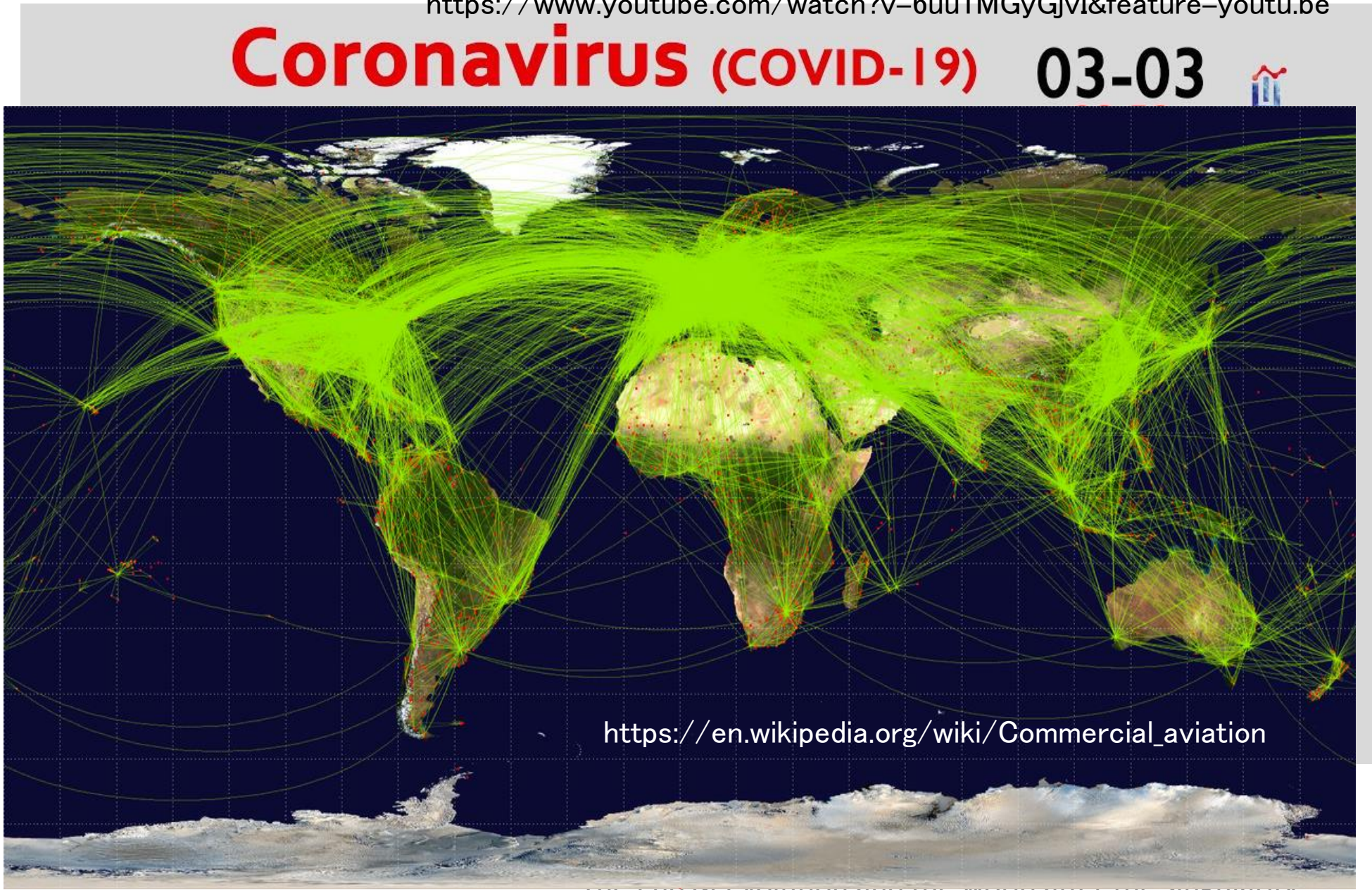
https://www.youtube.com/watch?v=6uu1MGyGjvI&feature=youtu.be



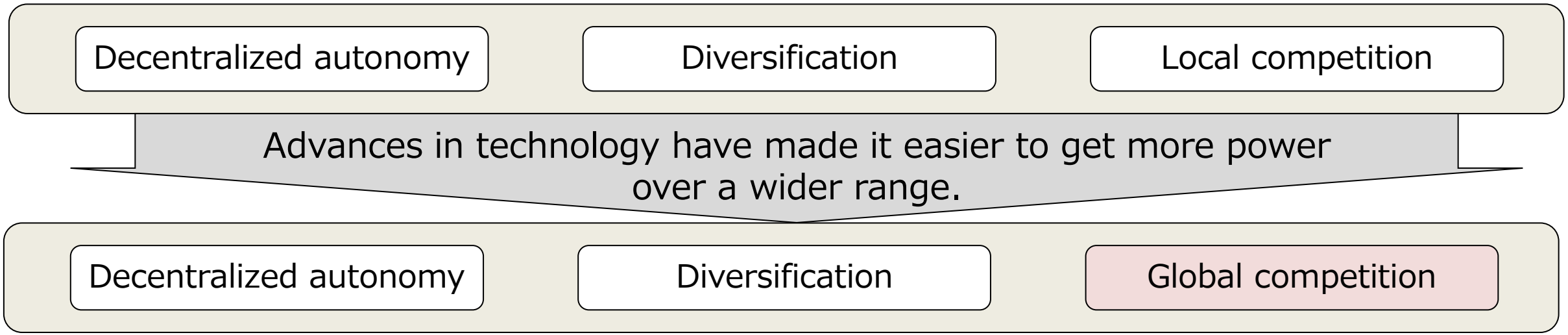
https://en.wikipedia.org/wiki/Commercial_aviation

The world without locality

https://www.youtube.com/watch?v=6uu1MGyGjvI&feature=youtu.be



Singularity looks the end of evolutionary strategy



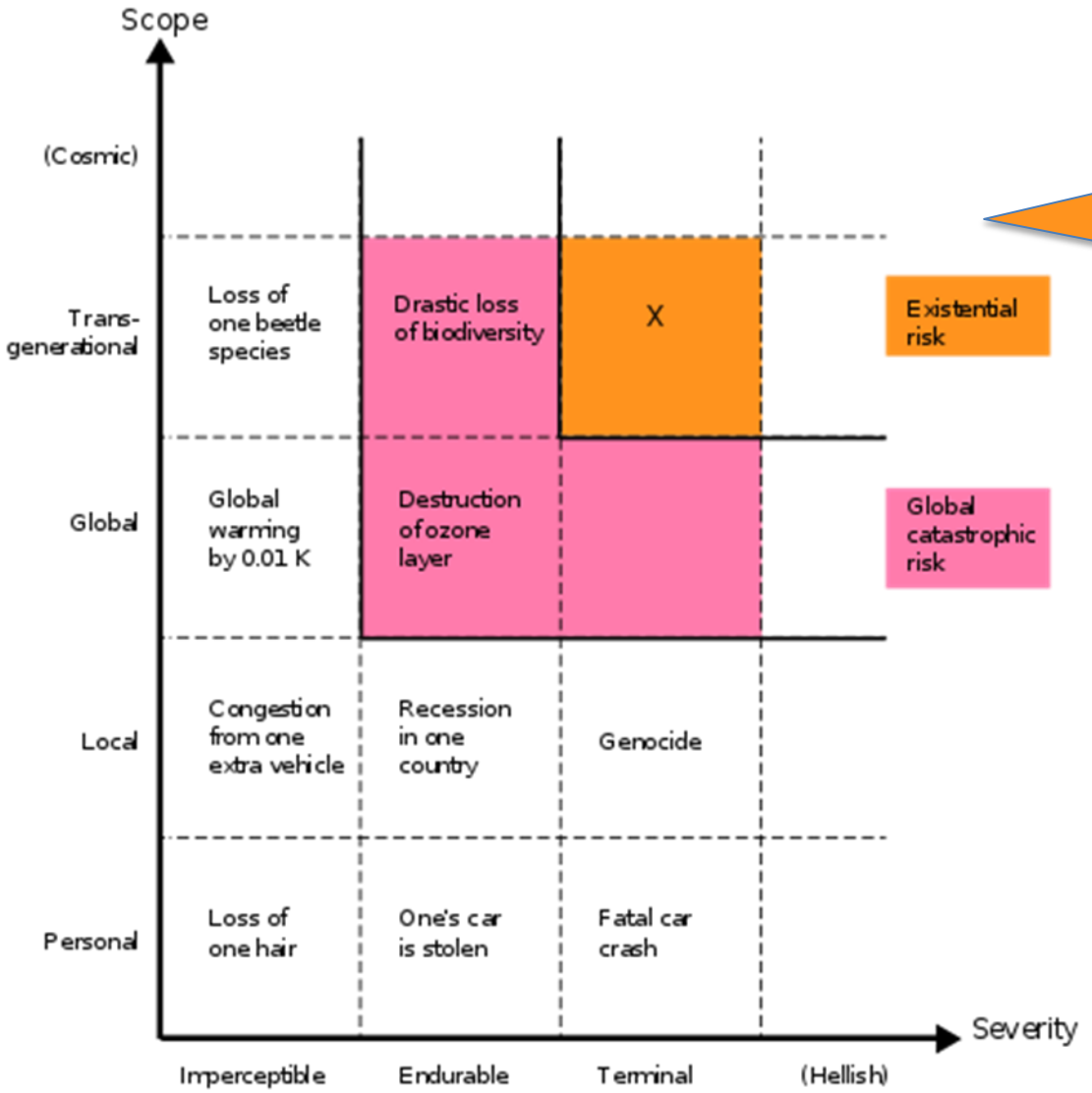
Limitation of the evolutionary strategy

- Loss of "locality" as a result of the evolutionary-driven arms race
- The (artificial) technology, a product of evolution, brings its own global destruction (existential risk)

(Yamakawa, December 12, 2019)

Global catastrophic risk

Global catastrophic risk are the risk that have a significant impact on human welfare in terms of scope and severity potentially.



Worst case scenario, human extinction.

https://en.wikipedia.org/wiki/Global_catastrophic_risk

Mass extinction history due to non-anthropogenic factors

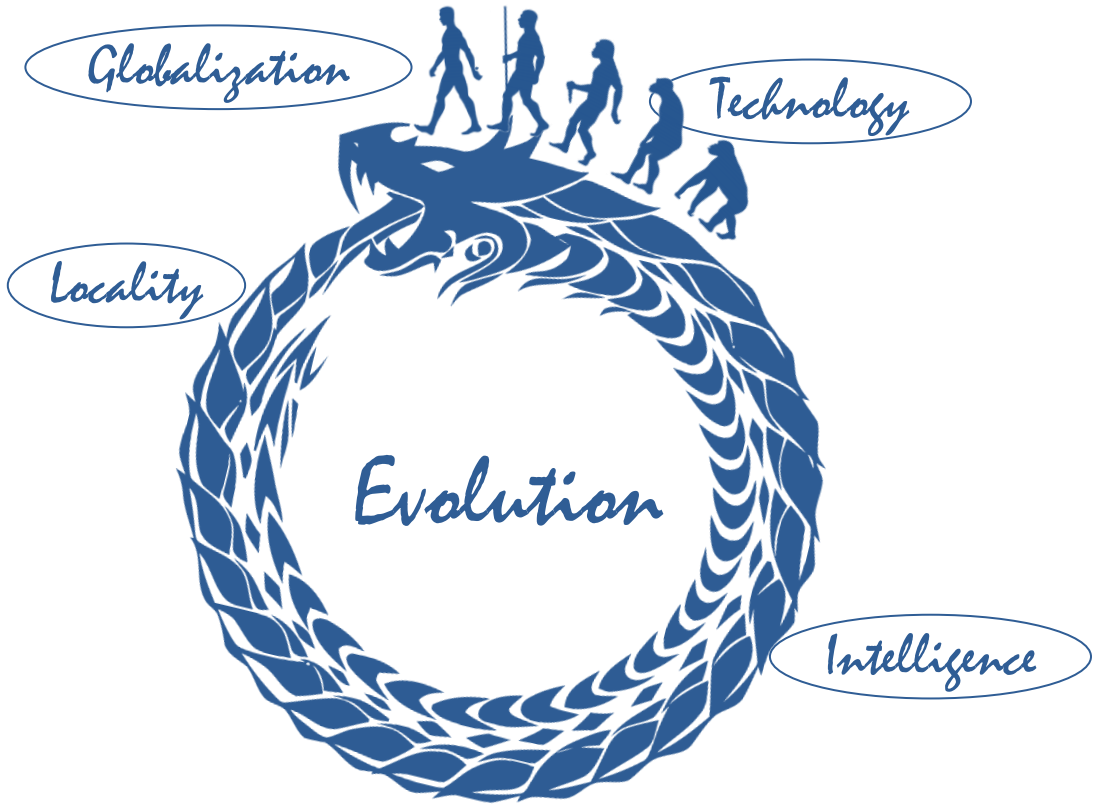
Period	Rate of species that survived
70 million years ago (Cretaceous)	～25%
200 million years ago (Triassic)	～20%
250 million years ago (Permian)	～5%
370 million years ago (Devonian)	～25%
440 million years ago (Ordovician)	～15%
2 billion years ago	～0.5%

Occurrence frequency of about once every few hundred million years
-> probably not urgent

Increasing anthropogenic risk due to emerging technologies

- Fossil Fuel: Climate Change
- Nuclear energy: Mass destruction, nuclear winter
- Synthetic biology: lethal bacterial pandemics
- Nanotechnology: Gray Goo
- Artificial general intelligence: Loss of control

AI/AGI isn't the only risk posed by humans



Evolution based on localized competition produces intelligence, and intelligence develops technology.

Globalization through technology deprives us of locality, which ends the evolution strategy.

Overcome normalcy bias

Normalcy bias:

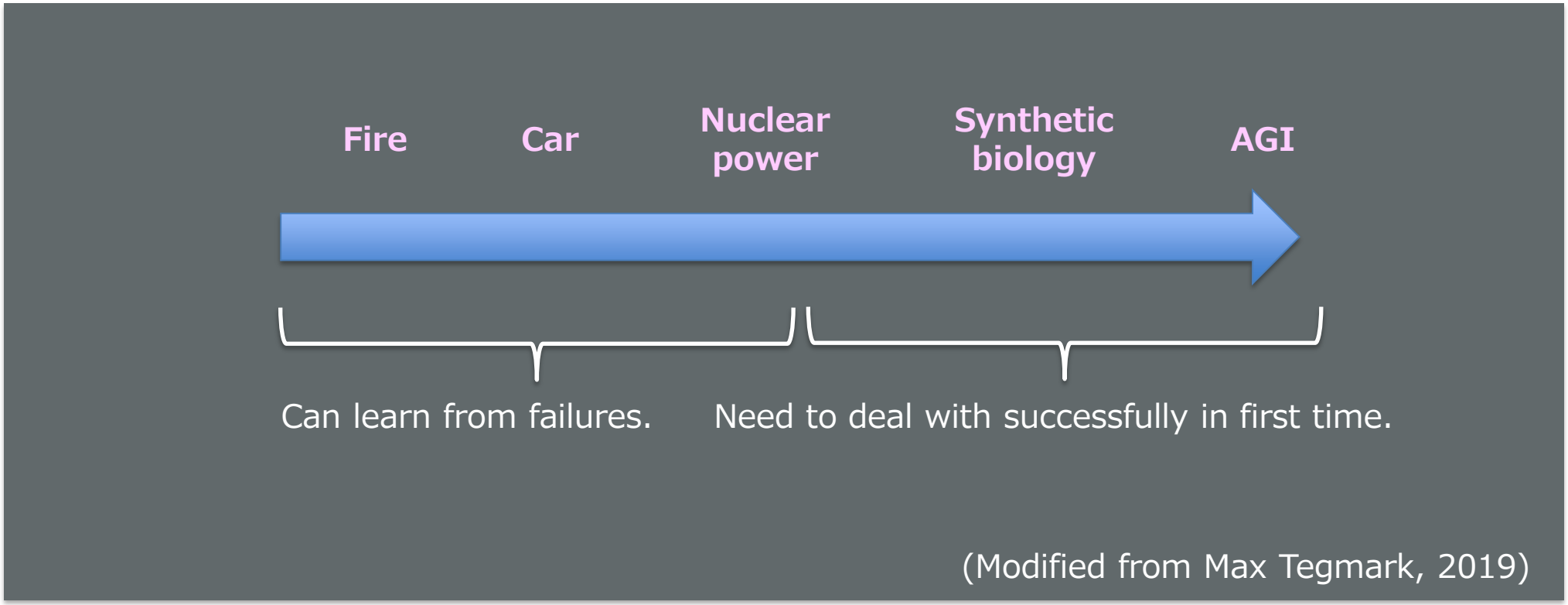
– Characteristics of people who ignore or underestimate information that is not convenient for them

- The evolutionary strategy has been successful in overcoming the environmental changes, but it may have just been a matter of luck.
- Against the rapid changes brought about by today's technology, biological evolution may not be able to keep up.

"Think we'll be okay just because we were okay"
is not wise thinking.

Principle of preemption

In order to prevent irreversible Existential Risk, society needs to take preemptive workarounds.



(Modified from Max Tegmark, 2019)

From the online discussion of lecture members

- The design of the next era will be completely different depending on what kind of society and culture will be formed in this era.
- If it goes haywire, AI-ELSI will be defeated.
- I think this is where we, the working generation, should work.

Satoshi Hase

Purpose of this seminar

- Easy reassurance is not our goal.
- Overcoming the normalcy bias and accepting the existence of risk
- Make opportunity thinking about what we can do in this age.

Agenda

Time	Content : Speaker
3 min.	Orientation: Kazuo Okanoya
10 min.	Opening talk: Hiroshi Yamakawa
15 min.	Lecture 1: Threat of AI: Hiroshi Nakagawa
30 min.	Lecture 2: The end of the evolution strategy brought about by technological advance: Hiroshi Yamakawa
30 min.	Lecture 3: Emergence of Language and an End of Biological Evolution: Kazuo Okanoya
30 min.	Lecture 4: The environment is emergent. Satoshi Hase
50 min.	Panel Discussion Moderator Hiroshi Nakagawa