Causal structure of a global catastrophe

Causal level

First cause

Accelerating evolution creates mind, tech and new possibilities.

Competition results in hyperbolic speed of evolution, which means it could reach infinity in finite time (that is Singularity around 2030)

Humans could create new risks using technology

Principle causes

Techno-humanitarian balance is broken (A.P.Nazaretian): Tech progress outrun social progress

Social causes

Social situation favors creation, deployment and implementation of dangerous tech.

Precursors

Technology able to create extinction level event is created

Dangerous situation

Level of risks overweights level of control

Extinction mechanic

Unlimited runaway exponential process

Exponential process is happening on a new level where no natural borders or limits to it exist.

Exponential agent has new quality, which help it to replicate and overcome limits.

Exponential agent is able to kill.

Life on Earth

Evolution
based on natural selection

Accelerating
of evolution
sex,
cephalization,

Universal human intelligence
humans
written history,
instruments,
machines

Competition

Growing knowledge

Evolutionary psychology

Technological progress

Large social groups

Religions
other complex memetic systems

Self-preservation instinct

Moore's law

Big population

Collective intelligence

Competition
based economy
Capitalism

Free information exchange

Cognitive biases

Aggression
Hawking mentioned it as one of the probable cause of extinction

Altruistic thinking

Super technologies
are developing
Bio, nano, cogno, AI, nuclear

World is divided on conflicting nations
Superpowers and rogue states

Many independent agents with their own goals and large resources

Conflicting
ideologies and religions
Islam, communism, West

Overpopulation and resources depletion

Dangerous ideas

Failure to understand
nature of x-risks

X-risks research

Now

Cheap research facilities
Bioprinters, CRISPR

Low safety
Projects with lower safety are cheaper and win short term competition

Arm race
Unstable arm race creates more powerful weapons than it was intended

Failures of rationality
- Inability to predict
- Emotional reaction
- Biases

Hate and suicidal ideation
Hate between social groups

Knowledge of mass destruction
DNA codes of viruses are published

Economy collapse
Malthusian trap,
Club Rome model

Failure to promote
importance of
x-risks prevention

Large international cooperation

Supertech is distributed in many places

War
- World war
- Nuclear war
- Global civil war
- Global terrorist war

Unintended consequences
Industrial catastrophe
Failed project
Accidents

Doomsday weapons
May be used to global blackmail or MAD

Existential terrorism
Some people may want to destroy the world

Slow accumulation of a negative factor (CO_2)

System crisis
Peak of everything:
oil, energy, ores

Disintegration of states

Failure to create defense mechanisms

International control system

Bioweapons
Other types of synthetic organisms

Nanoreplicator
- Grey Goo
- Nanoweapons

Dangerous AI
UFAI

Nuclear superbombs
Cobalt salted bombs
Gigaton scale weapons
Cheap nukes

Dangerous experiment
LHC

Dangerous chemicals
Dioxin accumulation

Runaway global warming
Methane hydrates

Failure of implementation
of the defense mechanism
Nanoshield attacks people

Effective x-risks prevention

Creation of Strong benevolent AI

Double scenarios
Smaller catastrophe results in bigger one (see another map)

Agent becomes malicious
Start of self-replication

Failure of Plan B
survival strategies
Bunkers don't work

Exit from the starting point
Explosion
Release
Breach
Run away

Dissemination
over Earth's surface
- Via air, space, people Internet, crust
- Self-propelled

Affects every human
- Kill
- Loss of fertility
- Loss of intelligence
- Ability to penetrate everywhere

Affects only part
of population

Regress
of the civilization

Gradual return
to tech progress
(goto the beginning of the map)

Extinction

Singleton
World is united by the Strong AI

Interstellar supercivilization

Approximate timeline

4 billion years ago

500 mln BC

100 000 BC

Neolithic

New time, after 1 AD

20 century

Beginning of 21 century

2020-2050

2050 - 2100

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