The map of cognitive biases, errors and obstacles affecting judgment and management of global catastrophic risks

Timeline of risk prevention

Ignoring of the risk

Under-estimation

Wrong model of risks

Wrong actions during risk prevention

Cognitive biases concerning only global catastrophic risks

3. **Bystander effect:** global risks have less perceived national security importance, EY, More...More...

4. Bias connected to **psychologization** of the problem More...

5. A **false equivocation** of global catastrophe with the death of all individual humans (value of future generations)

7. Bias connected with the fact that global catastrophe is by definition a **unique event More...**

31. Cognitive biases based on the idea: "It is too bad to be true" or "It couldn't happen to me", More...

32. Cognitive biases based on the idea: "It is too improbable to be the truth", More...

36. Approaching life in the spirit of the proverb: "after us the deluge", More...

37. Religious outlooks and eschatological cults, More...

1. **Confusion** regarding the difference between catastrophes causing human extinction **and catastrophies non-fatal** to our species Link

10. Global risks receive less attention than small-scale risks More...

2. **Underestimating** non-obvious risks More...

8. Underestimating global risks because of emotional reluctance to consider your personal demise, more

26. Erroneous representation that people as a whole do not want catastrophe and a doomsday, More...

15. Erroneous representation that global risks are in the far future and not relevant today More...

24. Scope neglect, EY More...

19. Intuition as a source of errors in thinking about global risks: Intuition works good only for repeatable things, More...

25. Exaggeration of prognostic values of extrapolation More...

13. Poor translation between the theoretical and practical More...

17. The representation that books and articles about global risks can change a situation considerably More...

18. Views that global risks are either inevitable, depend entirely on casual factors not subject to human influence, or depend on the highest-level politicians who are unreachable

6. Perceptive stereotype of catastrophes **from mass media coverage** of prior risks, More...

20. Scientific research of global risks also faces a number of problems:
- no experiment
- no probability
- no statistic
- no falsifiability , More...

22. Methods applicable to management of economic and other risks are not applicable to global catastrophic risks, More...

23. Erroneous conception that global risks threaten people only while we are Earthbound, and resettlement in space will automatically solve the problem More...

16. The idea that global catastrophe will be personally painless More...

28. Representation that global catastrophe will be caused by only one reason, More...

27. Future Shock: Cognitive biases connected with futuristic horizons, More...

30. Underestimate of pre-critical events as elements of coming global catastrophe More...

35. Inability of a system to simulate itself, More...

38. Uncertainty and ambiguity of novel terminology, More...

34. Representations that human adaptability is high and continues to grow beyond all bounds thanks to new technologies, More

29. Underestimating systemic factors of global risk More...

21. The errors connected with unawareness of little-known logical arguments for global risk:
- Doomsday Argument
- Observation selection More...

57. The error connected with concentrating on prevention of small catastrophes instead of prevention of the greatest possible catastrophe More...

12. Absence of clear understanding of to whom instructions on global risks are directed More...

9. Too many cooks in the kitchen: decision paralysis More...

11. Trading off a "slight" risk to humanity for some perceived benefit (e.g. genetic engineering) More...

33. Ideas about "selective relinquishment," deliberately deciding not to develop certain technologies as a way of dealing with global risks, More

14. Predisposal to risk-taking and aggression More...

How universal cognitive biases influence estimates of global risks

Emotional

3-1. Overconfidence

83. Overestimate of own possibilities in general and survival rate in particular

Overestimation in any particular judjement; calibration EY, More...

56. Dunning-Kruger effect—overconfidence in one's professional skills wiki More...

97. Egocentrism
Mundane egocentrism may cause people to overestimate the influence they can have over a certain situation, indirectly making them powerless to influence it. More...

11. Representations that thinking about global risks is pessimistic More...

14. Fear More...

18. Beliefs More...

19. Congenital fears More...

20. Shooting the messenger,
Discussion of risks can trigger discontent. This discontent may be directed towards the bearer of the message rather than addressing the threat itself.

22. Humor
It is possible to misinterpret a genuine threat as a joke, or interpret a joke as a genuine threat. More...

26. Weariness from catastrophe expectation More...

30. Stockholm syndrome - "desire to extinction" More...

39. Use of the theme of global risks as a plot for entertaining movies

68. Bystander effect More...

69. Need for closure More...

86. Curiosity can be stronger than fear of death More...

The Affect Heuristic
Good or bad? EY

3.2. Excessive attention to slow processes and underestimation of fast processes, More...

40. Generalizing from fictional evidence More

73. Confusion between objective and subjective threat More...

64. Propensity of people to offer "simple" and "obvious" decisions in difficult situations—not having thought them though More...

72. Mind projection fallacy More...

74. Predictions or dreams of catastrophe, caused by envy More...

75. Fear of loss of identity because of change More...

76. Clear catastrophe can be more attractive than an uncertain future More...

90. Influence of emotional reactions to catastrophe More...

96. Errors connected with the conscious and unconscious unwillingness of people to recognize the fault and scale of catastrophe, More...

23. Panic More...

24. Drowsiness and other mundane human failings More...

67. Planning fallacy and optimism bias More...

85. Filters between information reception and management More...

92. Fault and responsibility as factors in the prevention of risks More...

Brain biology

16. Effect of displacement of attention More...

35. A situation when a bigger problem follows a smaller one, but we are incapable of noticing it More...

47. Availability bias LWwiki EY More

53. Aspiration of people to establish a certain risk level acceptable to them More

58. Weariness of researchers More...

84. Aspiration to the wonderful future, masking perception of risks More...

32. A group of people can make worse decisions than each person separately, More...

33. Working memory limits More...

36. Selectivity of attention More...

49. Hindsight bias EY LWwiki More

37. Subconscious desire for catastrophe More

The Conjunction Fallacy EY LWwiki

Anchoring , Adjustment, and Contamination EY

3.3. Age features in perception of global risks, More...

Evolutionary

15. Underestimating importance of remote events (temporal discounting) More...

42. Excessive intellectual criticism or skepticism More...

54. "Overconfidence of the young professional" More...

78. The upper limit of possible catastrophe is formed on the basis of past experience More...

81. Refusal to consider a certain scenario because of its "incredibility" More...

89. Minimum perceived risk More...

99. Dependence of reaction on speed of change
A frog may be boiled to death in a pot, since if the heat is only turned up a little bit at a time, it does not notice. More...

98. Excessive focus on needing a villain
In the ancestral environment of mankind, the external threat we were exposed to most frequently would be rival human tribes with malignant intent. More...

3.4. Polarization through discussion, More...

6. Excessively conservative thinking about risk possibilities associated with memetic selection effects (Semmelweis), More

5. Skill at arguing is harmful, More...

10. Specific risks are perceived as more dangerous than more general risks More

Statistical

46. Statistics as a source of possible errors More...

55. Sensation of invulnerability through survival More...

4.1. Mess between different type of probability More...

Mess between probability and bets. Some times we must bey more.

50. False positives More...

7. The burden of proof is on a designer to prove that a system is safe, not on the users to prove that a catastrophe is likely

27. An expert's estimates which are not based on strict calculations cannot serve as a measure of real probability, More...

Logical

21. Difficulty in delimitation of own knowledge More...

Confirmation bias EY

8. Dangerous research tends to be self-preserving, More...

80. Ambiguity and a polysemy of any statement as a source of a possible error More...

77. Incorrect application of Occam's razor, More...
Occam's razor can simply be used to exclude ideas that are too complicated to understand, but nonetheless valid failure modes

95. Search terms
A scientific concept may have different systems of terminology associated with it, such that an internet or journal search for a given term misses important results associated with other terms that the searcher did not know about. More...

66. Premature investments More...

87. Systematic regulatory failure More...

Wrong ideas

9. Erroneous representation that when the problem arises there will be time to prepare for it, More...

13. Errors connected with the conflation of short-term, intermediate term and long-term forecasts More...

43. The false belief that it is possible to prove safety conclusively More...

34. Futurology is split across different disciplines as though the underlying processes occur independently, More...

17. The Internet as a source of possible errors More...

44. Underestimate of the human factor More...

45. The false idea that it is possible to create a faultless system More...

12. Conspiracy theories as an obstacle for the scientific analysis of global risks More...

61. Neglect of economic risks More...

79. Underestimating the fragility of complex systems More...

93. Underestimating inertia as a factor of stability More...

65. Error connected with incorrect correlation of force and safety More...

Heuristics

25. Propensity of people to struggle with dangers which are in the past More...

28. Ignoring a risk because of its insignificance according to an expert, More...

48. Analysis of global risks and making futurist forecasts are not identical More

71. Conflict between general research and applied research More...

29. Underestimating or overestimating our ability to resist global risks More...

31. Behind errors of the operator there is an improper preparation More...

51. An overly simplistic explanation is the most prominent More...

The universal logical errors and problems in reasoning on global risks

4.2. Substitution of the analysis of possibilities by the analysis of the purposes More...

3. The incorrect use of inductive logic of a following kind: if something did not occur for a long time, it will not occur the same long period. More...

4. The thinking caused by desire to prove something (whiful thinking) More...

5. The logic error arising at attempts to prove what it is necessary to do, proceeding only from the description of the facts

6. The errors connected with substitution of the analysis of risks by the analysis of commercial motives of those who speaks about them More...

7. Use of so-called «authoritative knowledge" More...

8. Wrong application of idea that the theory should be considered as true, only if it is proved (opposite for risks) More...

10. An error in a choice of a neutral position More... More...

4.11. Confidence as a source of errors
The more human doubts his point of view, the more is often he changes it under the influence of the new facts, and the it is more than chances, that it will get to more authentic knowledge

12. Use completely the erroneous logic
The situation when human in the reasoning makes mistakes «in each line» is possible. In this case he could not find errors even if he would like. More...

13. Pre-science and pseudo-science mixture More...

14. The error connected with wrong definition of the status of «universalis"
Is A1 object or class? More...

16. Logical conclusion as a source of errors More...

18. The error connected with representation that each each event has only one cause More...

4.19. Necessity of a choice between equally proved options on the basis of belief More...

4.20. Effect of first and last read book More...

4.21. Exaggeration of a role of computer modeling More...

4.22. The proof by analogy as a source of possible errors More...

23. The error connected with discrepancy of extrapolation exponential probability function by means of the linear.

24. The St.-Petersburg paradox More...
A infinitely big damage from the extremely rare events has bigger weight, than all other events.

26. The error connected with idea that if probability of some events is not computable, it is believed to be zero. More...

4.27. Omission of the fact that safety of system is defined by its weakest link More...

4.28. Denial of hypotheses without consideration More...

29.Non-computability More...

4.9 Perception of the new information through a prism of the old More...

4.16. Evidence as a source of error More...

4.17. Underestimate of own inaccuracy More...

Social games

38. Use of risk warnings to attract attention or social status More...

41. Privacy as a source of errors in management of risks More

52. Misuse of apocalyptic scenarios to draw attention and financing to projects More...

59. Fear of loss of the social status by researchers More...

60. The quantity of the attention which society can give to risks is limited More...

62. The errors connected with overestimating, underestimating, or failing to appreciate the moral condition of a society and its elite More...

63. Popularity bias More...

70. Influence of authority and the social pressure of a group More...

82. Transition from deliberate deceit to self-deception More...

88. Scapegoating More...

91. Problems with selection of experts More...

94. Bias caused by differences in outlook, More...

Meta-biases

Meta-biases

Some cognitive biases don't allow a person to see and cure his other biases. It results in biases accumulation and strongly distorted world picture. I tried to draw out a list of main meta-biases.

1. Psychological group

First and most important of them is overconfidence. Generalized overconfidence also is known as feeling of self-importance. It prevents a person from searching and indemnifying his own biases. He feels himself perfect. It is also called arrogance.

Lack or reflectivity. Inability to think about own thinking.

Projection of responsibility. If one used to think that others are source of his problems, he is unable to see his own mistakes and make changes.

Psychopathic traits of character. They often combine many of above mentioned properties.

Learned helplessness. In this case a person may not believe that he is able to "debias" himself.

Hyperoptimistic bias. If you want something very much, you will ignore all warnings.

2. Cognitive group

Stupidity. It is not a bias, but a (sort of very general) property of mind. It may include many psychiatric disorders, from dementia to depression.

Lack of knowledge in logic, statistic, brain science, scientific method, biases etc.

3. Belief structure items.

Dogmatism: Unchangeable group of believes, often connected with believe in certain text or author.

Lack of motivation to self-improvement.

Obstinacy. A person may want to signal his high status by ignoring good advises and even facts, and try to demonstrate that he is "strong" in his believes.

The ability to see others biases as an instrument for effective arguening

Social pressure: Thinking about own fallacies may not be socially acceptable in the peer group.