# Societal Problems & Solution Pathways

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Critical thinking

- The objective analysis and evaluation of an issue in order to form a judgment.

- Analysis of facts to form a judgment regarding subjects that are complex, may have several different definitions. Arguments may include rational, skeptical, un/biased analysis, or evaluation of factual evidence.

Critical Thinking Skills

Analysis

Communication

Creativity

Open-Mindedness

Problem Solving

ThoughtCo.
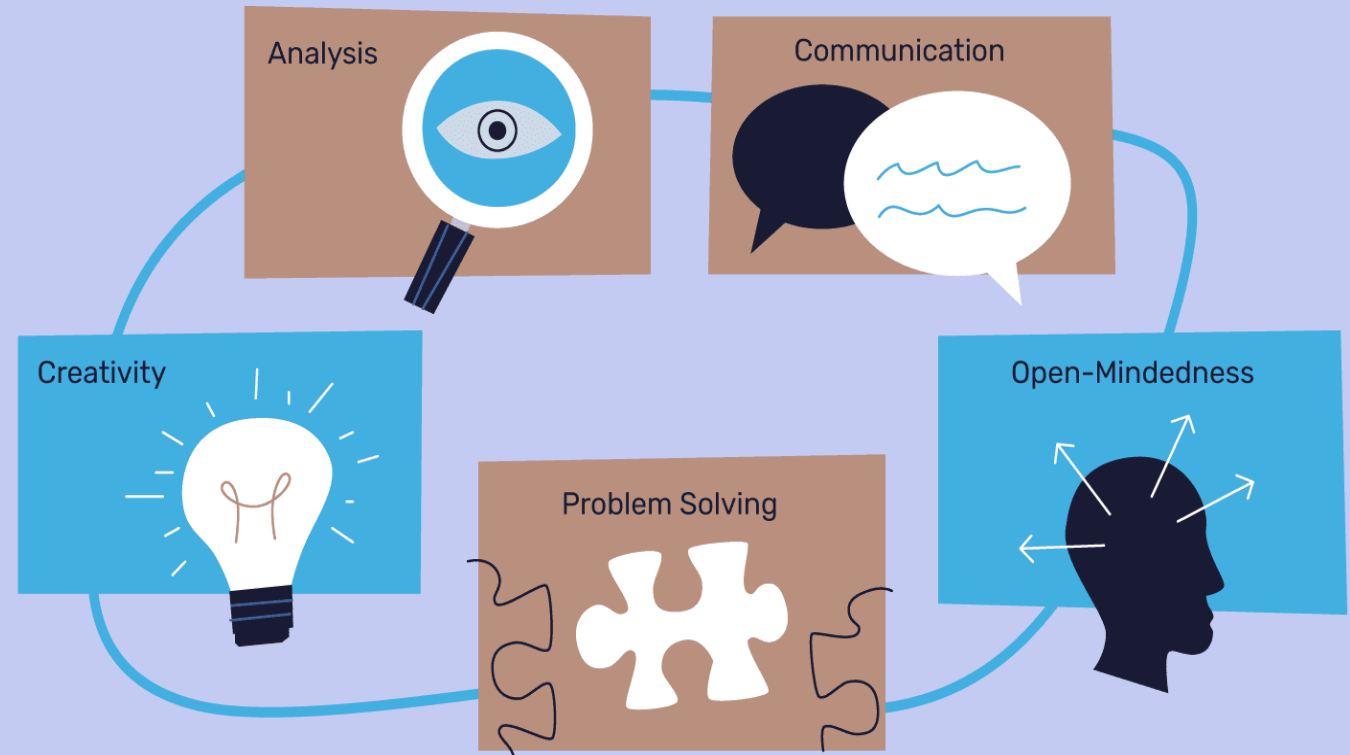
Collapse – J. Diamond
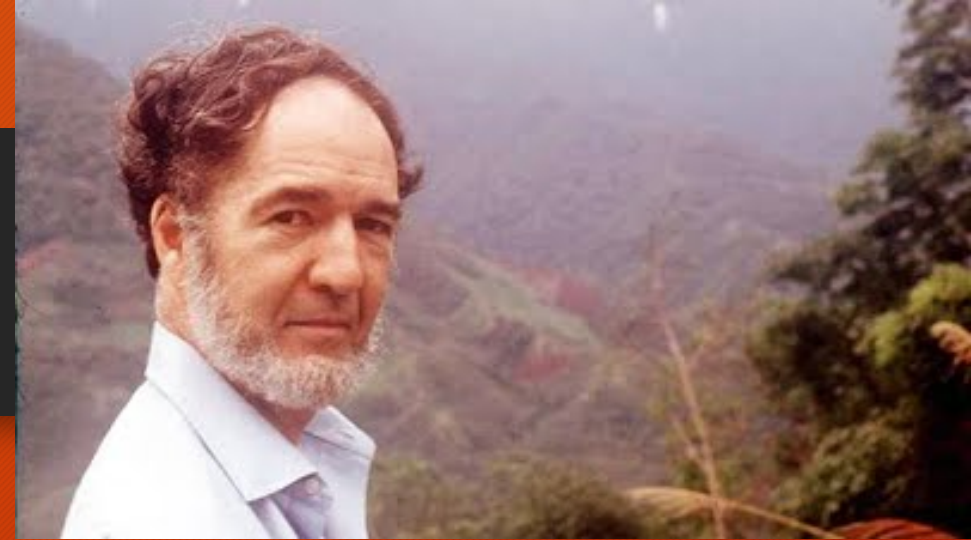
1. Environmental destruction
   - Inadvertently destroying the resource base
2. Climate change (warming or cooling)
3. Hostile neighbors (War- someone wants your resources and is willing to fight for them)
4. Once friendly neighbors choose not to support you
5. Political, social, culture factors

Societal reactions

1. Failure to perceive the problem
2. Recognize the problem but choose to do nothing about it
3. Recognize the problem work effectively together, but it is not enough
4. Recognize the problem, but see it as a hindrance to making money, so you cast doubt on scientific findings and create public confusion

Hope?

- Effective leaders
- Inspirational scientists, citizens communities…
- Technology

Look for your friends, but do not *trust to hope*. It has forsaken these lands

Hey digital data bank, who is a great leader?

Environmental Alter-Egos

2021

- 1. Environmental activism
- 2. Pushed for legislation
- 3. Innovative
- 4. Started a non-profit or foundation
- 5. Trailblazers, started new paths

2020

- 1. Love of the environment/ sense of place
- 2. Activism – the will to act
- 3. Education – well rounded LAC
- 4. Communication
- 5. Serendipity

Collaborative problem-solving

Collective intelligence is a natural property of socially shared cognition, a natural enabler of collaboration.

Working together to address a shared problem!

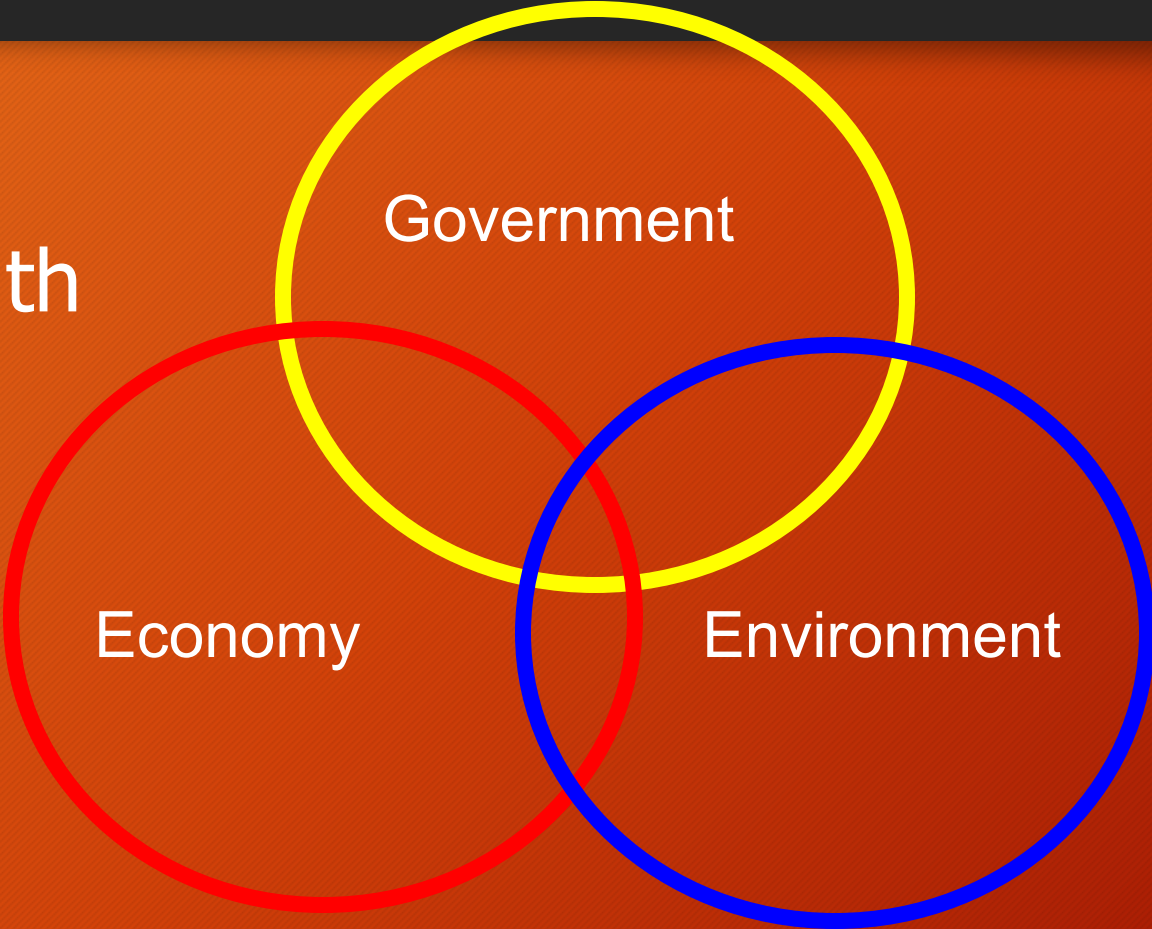# Social complexity - increases as the...

- Number of people and/or groups of people join the problem

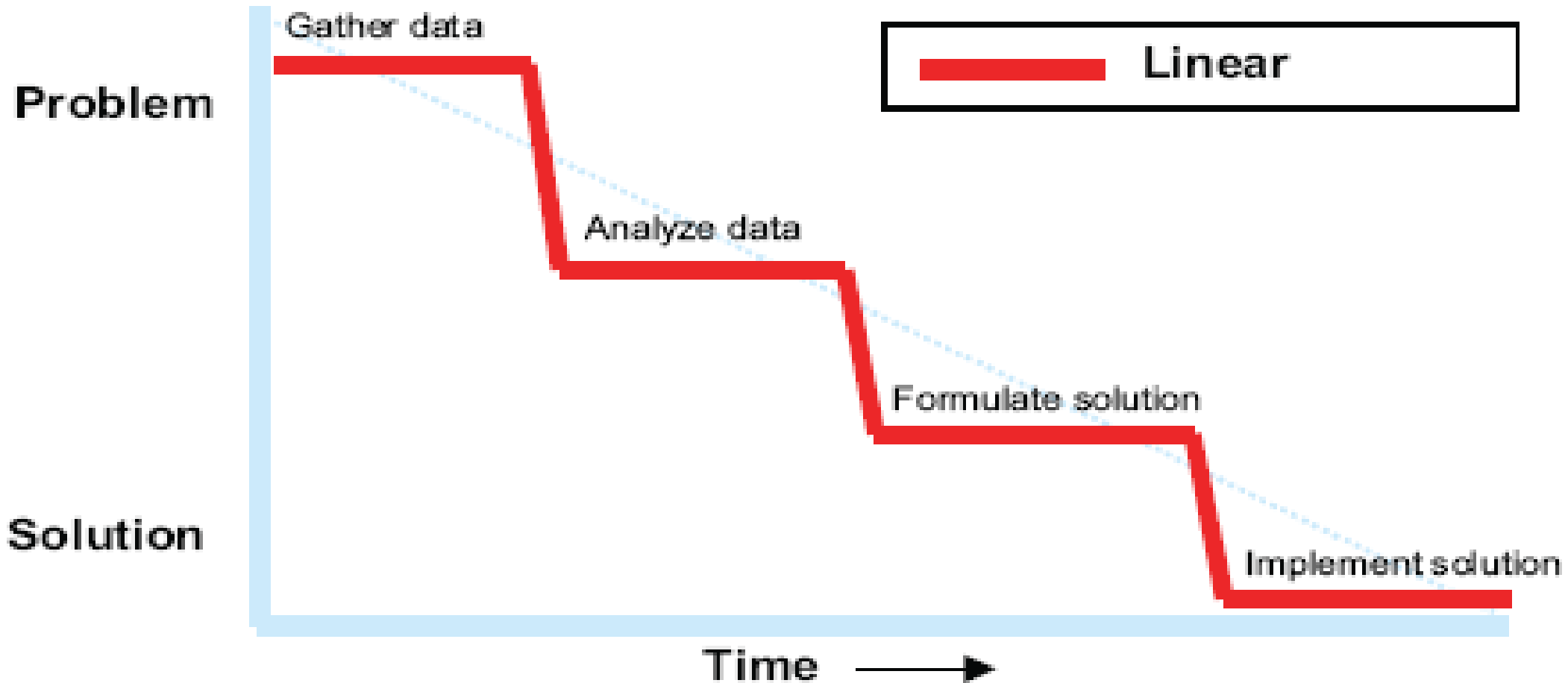- Diversity (gender, ethnicity, political and/or religious affiliations) within the problem-solving group grows
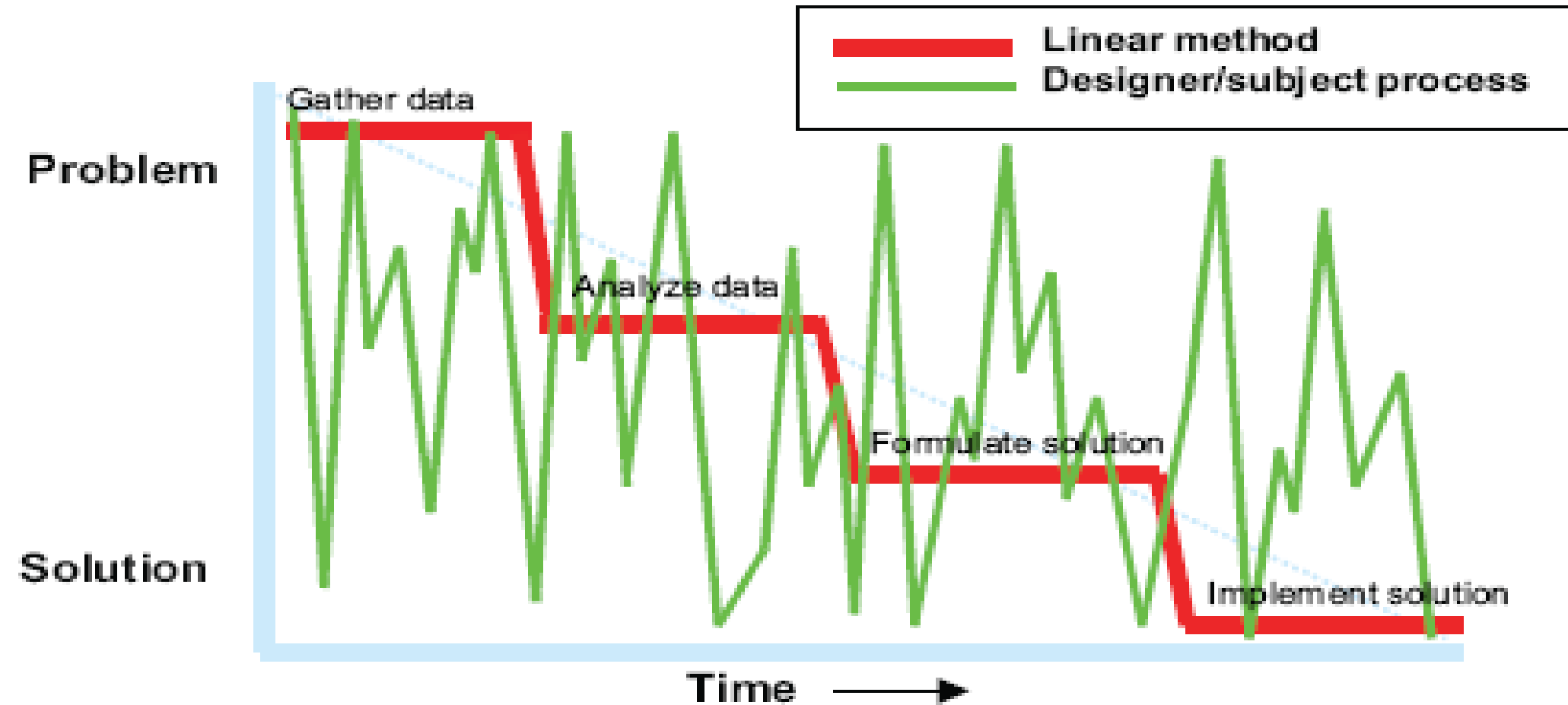
Forces of Fragmentation

Natural forces that challenge collective intelligence

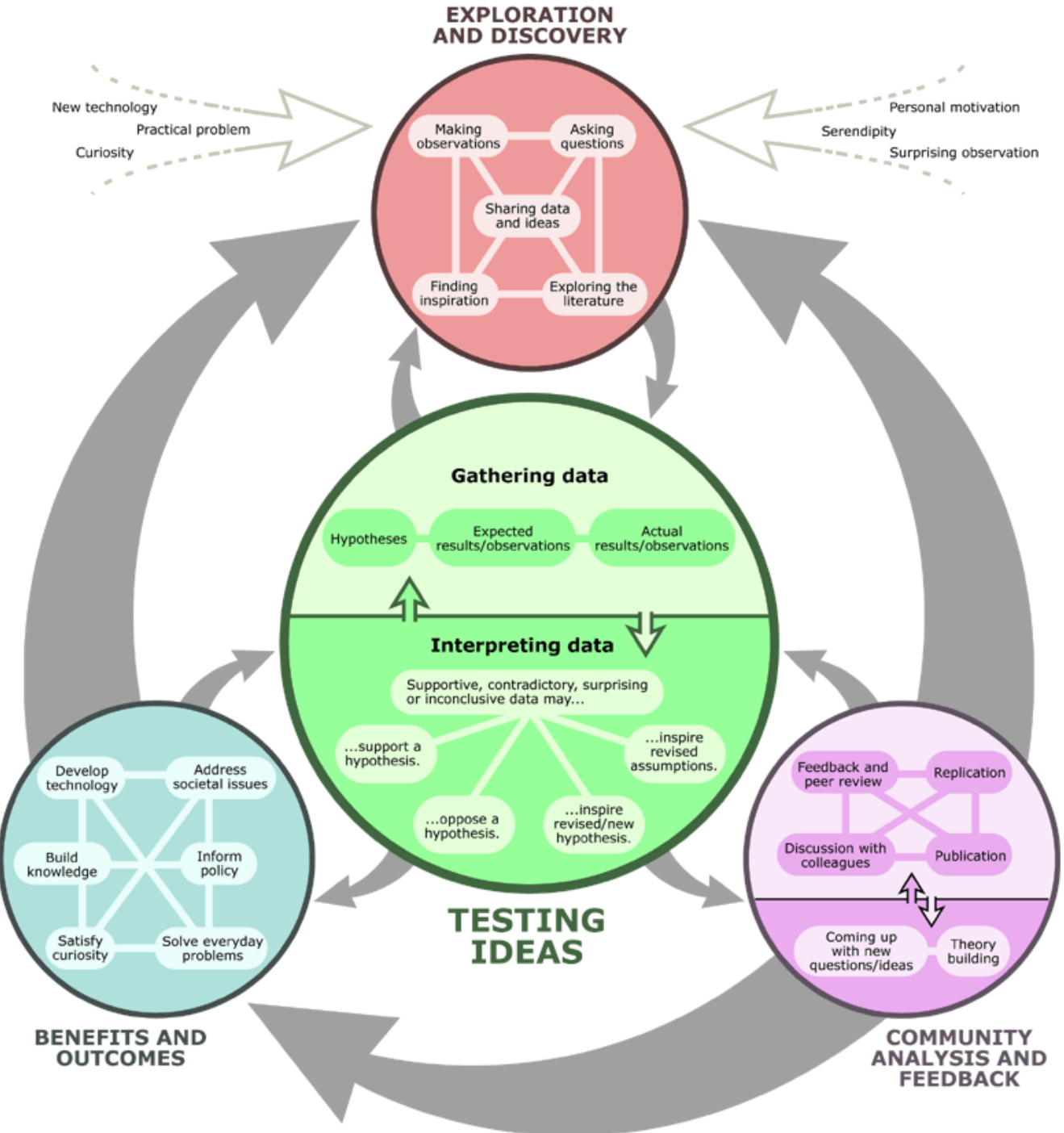Forces that doom projects and make collaboration difficult to impossible.

Simple / Tame Problems

Not quite that simple...

Scientific Method

Wicked Problems

1. You don't understand the problem until you have developed a solution.

2. Wicked problems have no stopping rule / No one solution...

3. Solutions to wicked problems are not right or wrong.

Wicked Problem - Identifiers cont.

4. Every wicked problem is essentially unique and novel.

5. Every solution to a wicked problem is a 'one-shot operation.'

6. Wicked problems have no given alternative solutions.

What
Wicked
Problems
does our
Society
Face?

Depletion of Natural Resources

~~Polarized / Ineffective Politics~~

Unstable Global Economy

~~Religious Corruption~~

Population growth

Global Climate Change

Energy crisis   Warfare / Terrorism

Separate problems from fragmenting forces !!!!!!!!!!

Wicked problems demand an opportunity-driven approach

Wicked problems require making decisions, doing experiments, launching pilot programs, testing prototypes, and so on.

Study alone leads to more study, and results in the condition known as 'analysis paralysis,' a Catch 22!

We can't take action until we have more information, but we can't get more information until someone takes action.

The Condition of Apathy

1. The problem does or will not directly affect me, so why should I spend time working on it...

2. The problem is so big and complex, I cannot even think of how to start addressing it, - *There are so many other pressing issues in my life work/school, bills, family* , in end you 'unconsciously' choose not to address the complex problem... (procrastination)

Taming a wicked problem

Lock down the problem definition.

Develop a description of a related problem or a sub-problem that you can solve, and declare that to be the problem.

Assert that the problem is solved.

Since a wicked problem has no definitive solution, the whole point of attempting to tame it is so that a solution can be reached.

Specify objective parameters by which to measure the solution's success.

This taming approach amounts to locking the problem down (point 1), however, because what is measured becomes, officially and by definition, the problem. Whatever is not measured is then free to absorb the real problem…

Cast the problem as a previous solved problem

Ignore or filter out evidence that complicates the picture. Refer to the previous solution of the related problem: "It's just like that problem. Just do the same thing again." For example, there is a saying in military circles that "we always fight the last war," meaning the tendency to assume that the enemy will behave as they did in the last war.

Has Failed!!!

Give up trying to find a perfect solution

Declare that there are just a few possible solutions, and focus on selecting from among these options.

A specific way to do this is to frame the problem in 'either/or' terms, e.g. "Should we attack Country XYZ or let the radicals take over the world?"

How can a group reach an acceptable solution if the stakeholders cannot agree on what the problem is?

The answer to this question – and the *Holy Grail* of **effective collaboration** – is in creating shared understanding about the problem, and shared commitment to the possible solutions.

Shared understanding

Shared understanding does not mean we necessarily agree on the problem.

Shared understanding means that the stakeholders understand each other's positions well enough to have intelligent dialogue about the different interpretations of the problem, and to exercise collective intelligence about how to solve it.

Because of social complexity

Solving a wicked problem is fundamentally a social process. Having a few brilliant people is no longer sufficient.

Finding ways forward...

- *Imagination Is More Important Than Knowledge*

- **Knowledge** is limited, whereas **imagination** embraces the entire world, stimulating progress, giving birth to evolution. It is, strictly speaking, a real factor in scientific research."