IdeaSquare Planet: Mission on Planet Y debrief

Making sense of a week-long thought experiment
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Retrospective

Think of last week and reflect on the following points.

You can consider aspects related to your teamwork, the narrative provided, the timeframe given, facilitation by coaches, schedule, etc…

15 min

What went well?

What went bad?

What would you change?

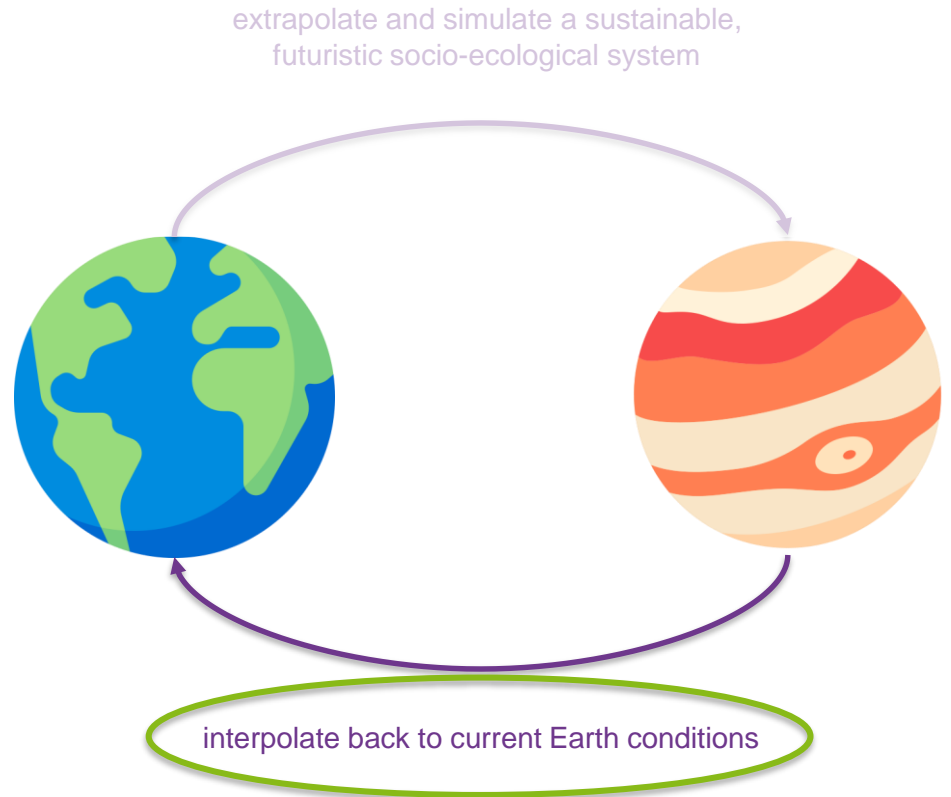**Other comments or ideas?**

Let's look back…

Find a partner and discuss your experience from last week. Document your insights in stickies.
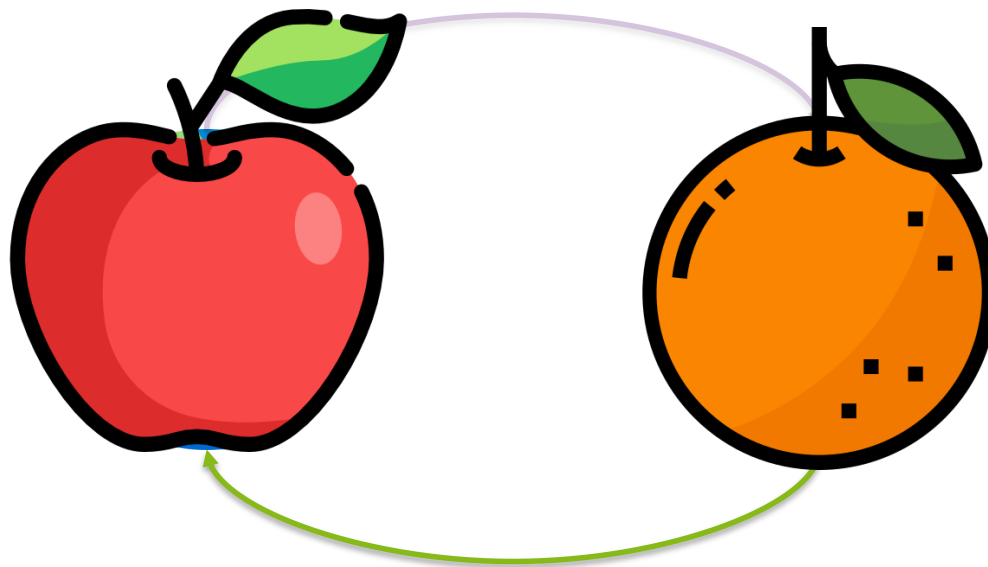
- How was it to navigate the **process of tackling the mission**?

    - What challenged you? Where did you find yourself comfortable?

- What **different approaches** did you see in others?

    - What inspired you? What might you adopt/integrate into your way of working?

- What did you learn about **yourself and your unique contribution** regarding your

    teamwork this week?

- What were some of the **topics you learned about**?

- What do you think this **experience brings to your project**?

IdeaSquare Planet

- **Systems-thinking approach** to design and simulate a first settlement on an exoplanet.

- Showcasing scientific methods can be used to **address complex societal challenges.**

- Reference point for **assessing** the potential **societal impact.**

extrapolate and simulate a sustainable, futuristic socio-ecological system

interpolate back to current Earth conditions

Planet icons created by Victoruler - Flaticon

extrapolate and simulate a sustainable, futuristic socio-ecological system

We cannot compare apples with oranges…

How can you switch contexts?

Consider that whatever worked on your exoplanet, **does not necessarily translate directly to planet Earth.**

We're not "copy pasting" the plans we came up with last week.

We are rather abstracting and translating the learnings related to the process we went through, and applying them to our future work.
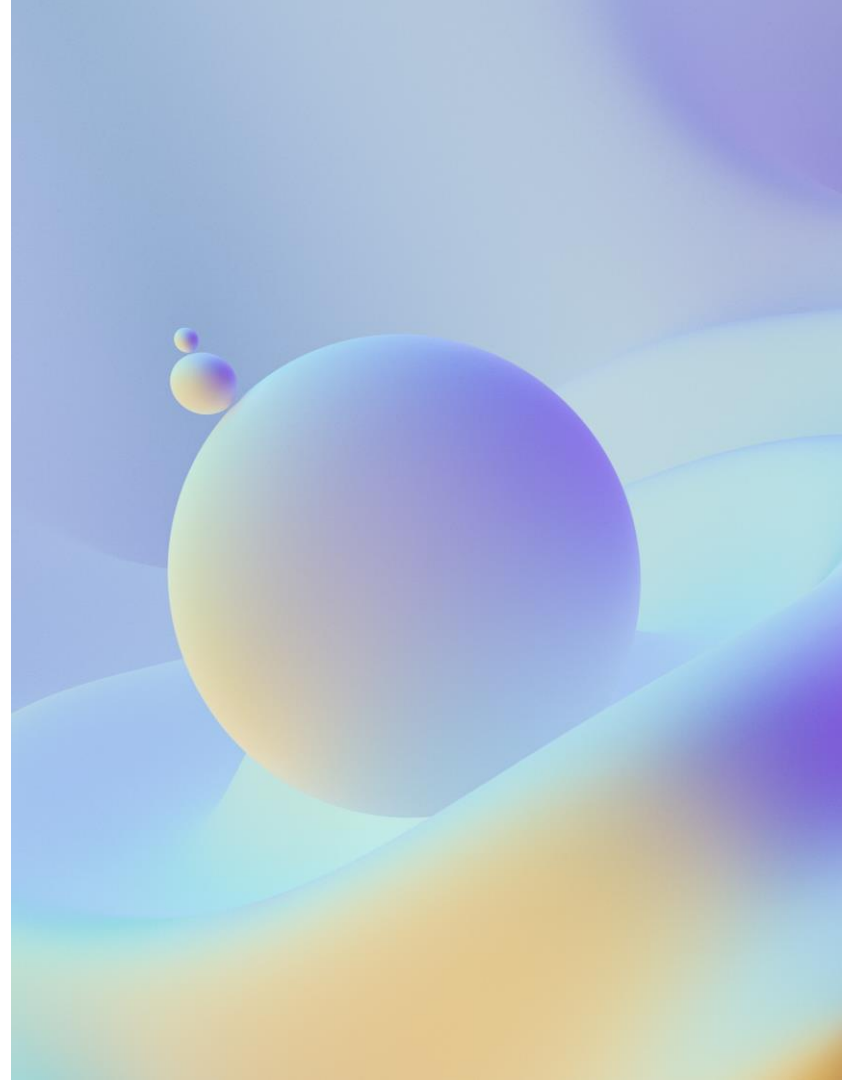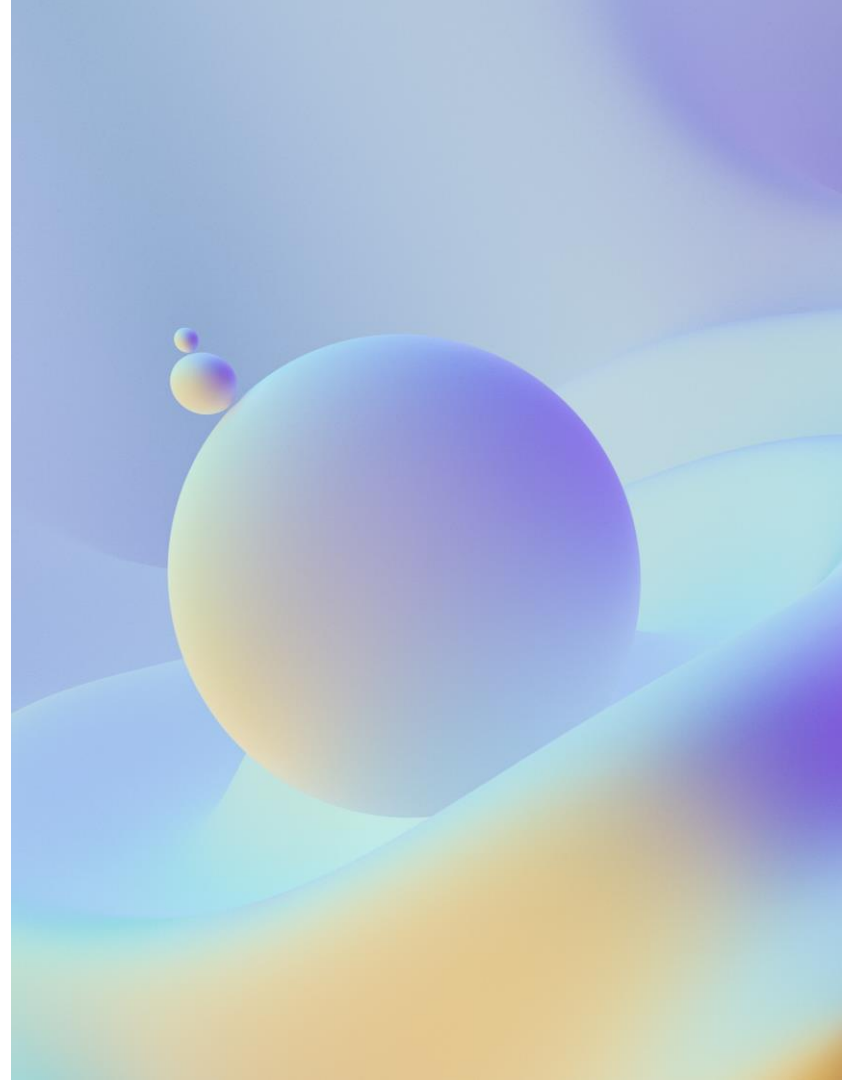
How can you switch contexts?

Contrary to last week, in which you created a new system, with (largely) a lot of freedom.

You will now have to **intervene in existing contexts.**

→ Remember the possible impacts you will be creating in the current earthly system.
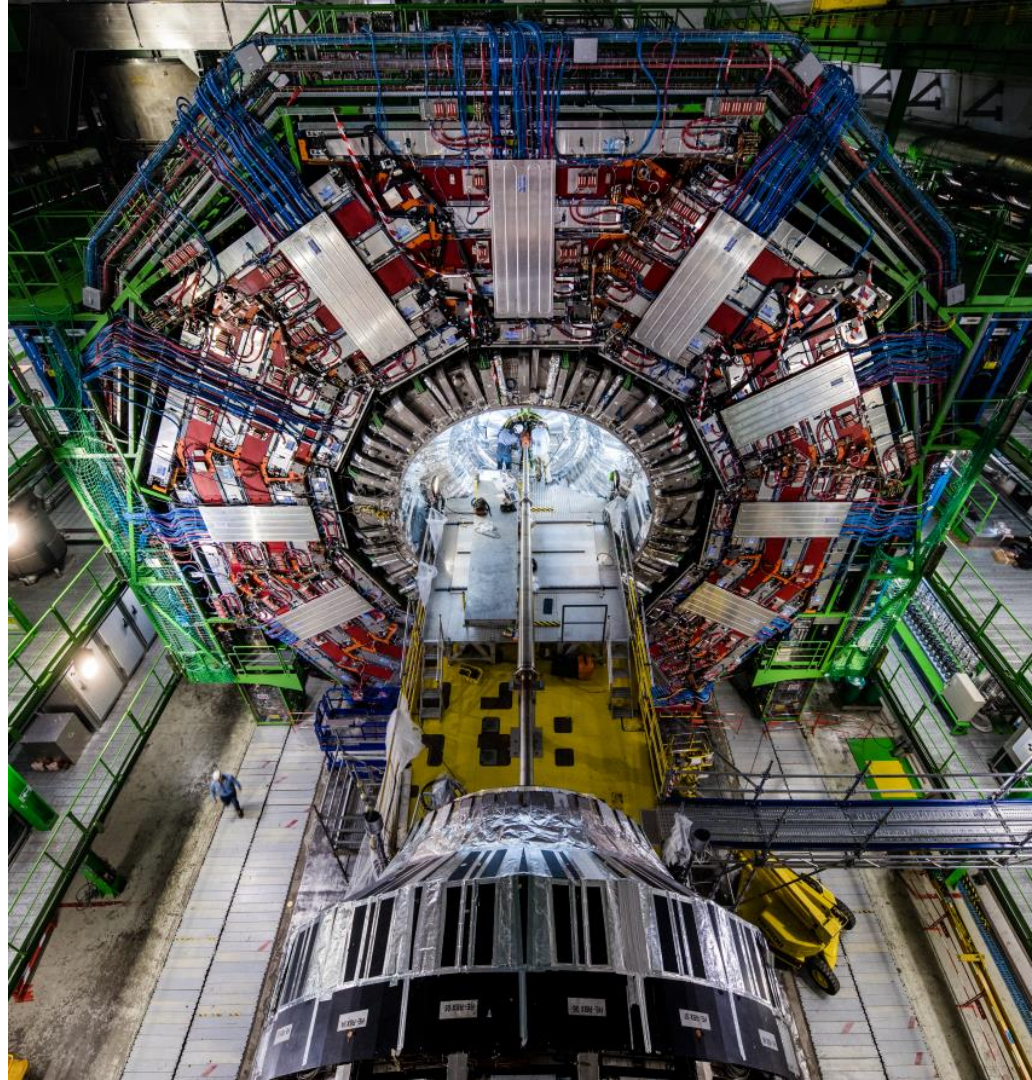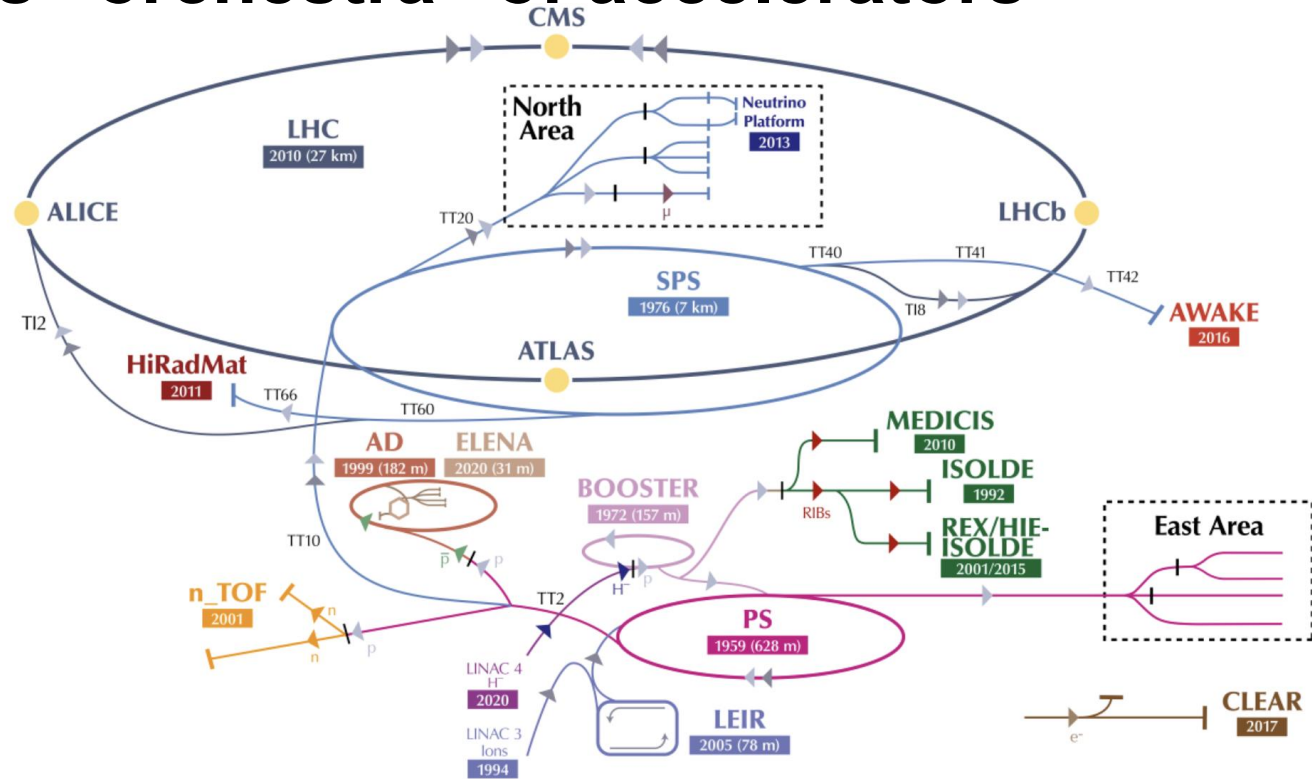
How can we consider solutions without understanding the systemic nature of the problem?

Business as usual is not in our DNA, but we also don't want any "magic"…

- Ideas should be disruptive, without:

- Breaking the laws of physics;
- Causing more harm than good.

CERN's "orchestra" of accelerators

Dissect the problem

What is the origin of the universe?

Theory
Experimentalists
Mathematicians
Engineers
Data Scienctists

Cafeteria (R1 open -> more papers published)
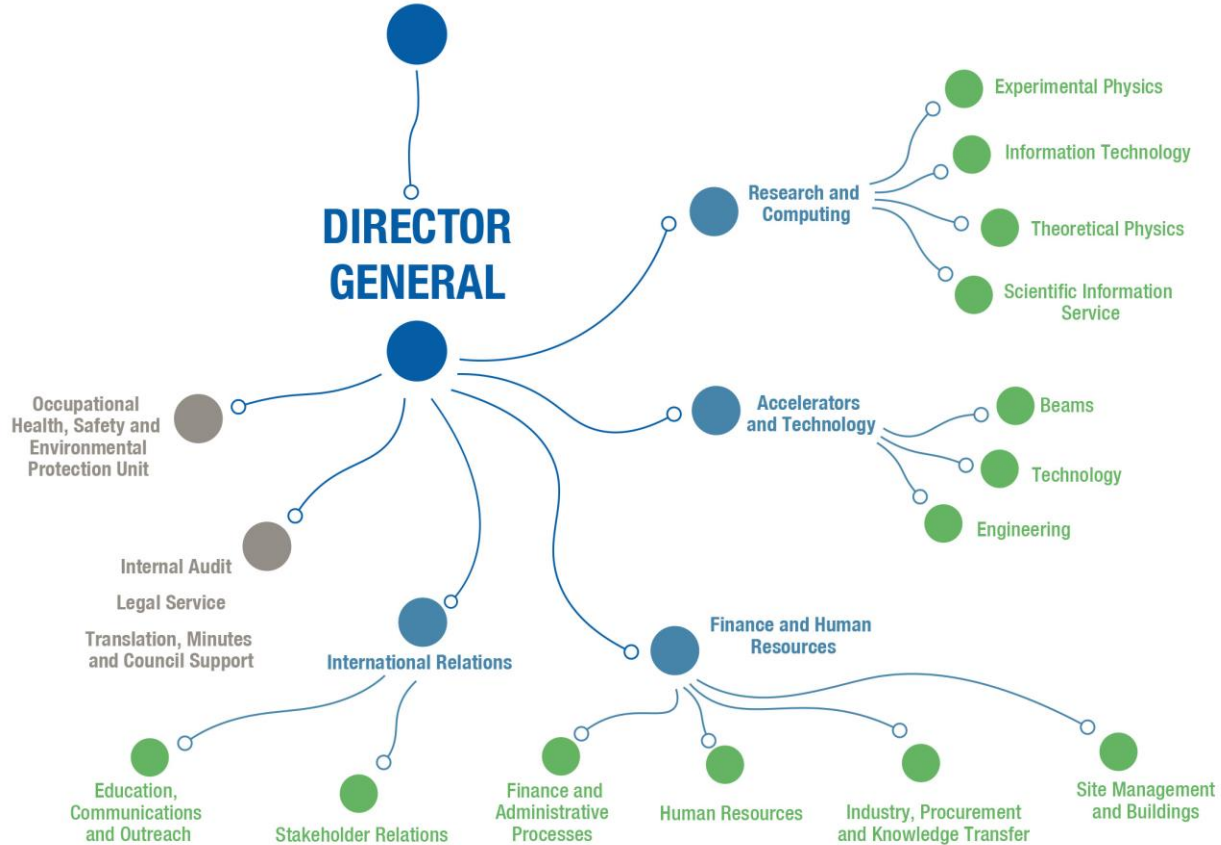Infrastructure
Management
Human Resources
International Relations
Procurement

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- Finance and Administrative Processes
- Human Resources
- Industry, Procurement and Knowledge Transfer
- Site Management and Buildings

Unite different disciplines and backgrounds

Not one single person has studied "Particle-collision detector construction management"

Which is why we need Theoretical & Experimental Physicists, Engineers, Data Scientists, Economists, Lawyers, Technical workers and many more disciplines to plan, organize parts, build, manage and maintain the LHC and all connected experiments.

You need to learn to **"speak the same language"** and establish a common baseline by **agreeing on a set of assumptions** that you share. Otherwise you will struggle repeatedly throughout your project.

Anticipate the future

When pursuing big(ger) projects, the aspect of time becomes ever more impactful.

The LHC was conveived at a time when the Magnets that are needed to steer the protons did not exist yet at an affordable price.

But to reach superconductivity by cooling should be possible because:

1) did not violate the laws of physics 2)

2) considering the prices of other technologies it could be expected that they will become affordable in the quantity needed by the time the experiment was built.

Planning for 30-50 years challenges you to **take a look at the world outside of your projects, look at trends and make assumptions.**

Argue Scientifically

Talking about anything without having some data on it, is a bar talk.

Using basic calculations (back on the envelope calculations) is a great way to understand the **order of magnitude** of a problem or a solution.

Think of Enrico Fermi and his pieces of paper. With proper estimations you can argue, without data, you cannot.
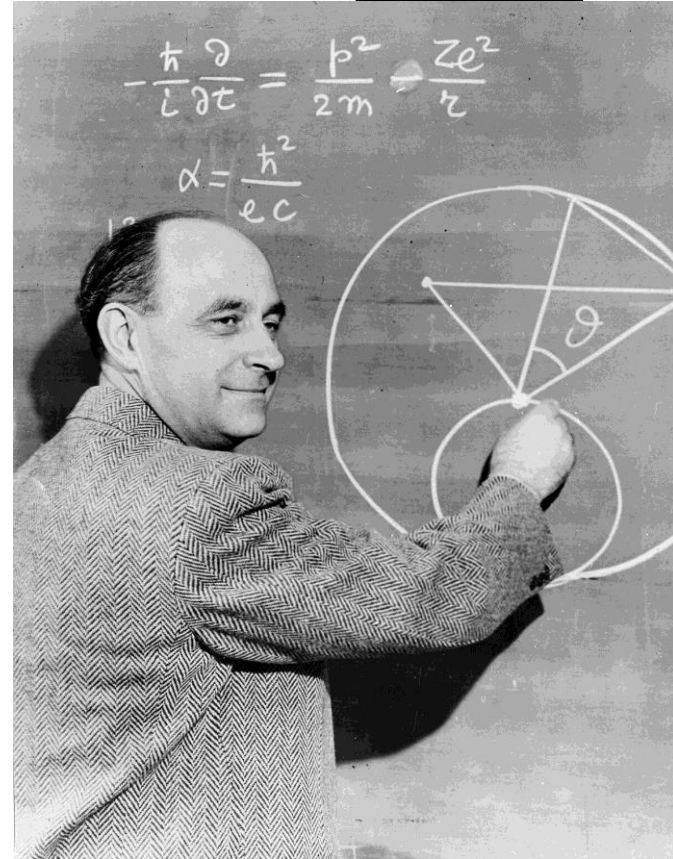
Challenge Paradigms

Thinking in terms of "if… then" is putting you in a reactive mode, in which it is extremely hard to archieve real change.

Thinking in terms of "what if…", however, enables you to imagine, dream and change.

Think of Rosa Parks (and activists before and after her), challenging existing paradigms (with good reason), might end up changing the whole world.

Exponential innovation, a CERN recipe

1) Dissect the Problem

2) Unite different disciplines and backgrounds

3) Anticipate the future

4) Argue Scientifically

5) Challenge Paradigms

Mindset Check-in

Case Study:
Chicago
High School

Fixed mindset

Intelligence is static/ desire to look smart

Growth mindset

Intelligence can be developed/ desire to learn

Avoid challenges

Embrace challenges

Give up easily

Persist in the face of setbacks

See effort as fruitless or worse

See effort as the path to mastery

Ignore useful negative feedback

Learn from criticism

Feel threatened by the success of others

Find lessons and inspiration in the success of others

Adapted from Two Mindsets graphic by Nigel Holmes

What is your *"not yet"* for the week?

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