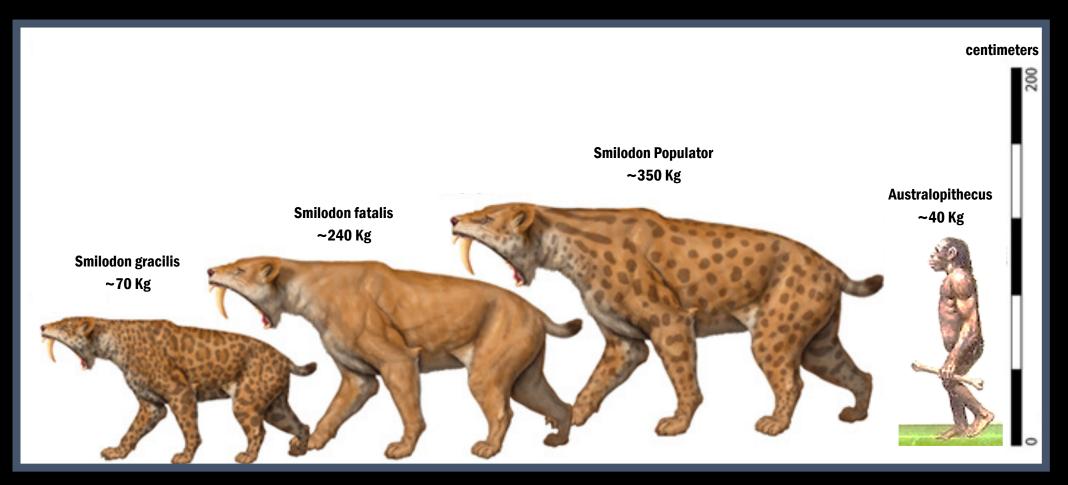


From "If...then" to "Why not"

Pablo Garcia Tello, IdeaSquare, CERN

# If...then...

### A very efficient deductive thinking strategy that kept us alive for millennia



## **I** am chased by a big cat then I better run away



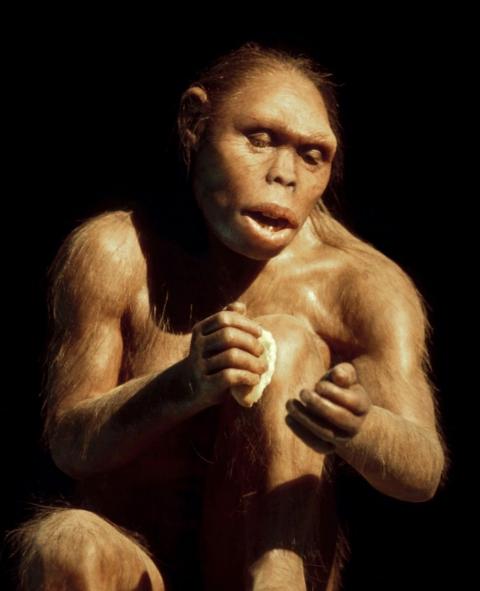
## Now, there is a "little problem" when using only deductive thinking

## **I** am chased by a big cat then I better run away

VS

# WHAT IF...I do not see the big cat on time?

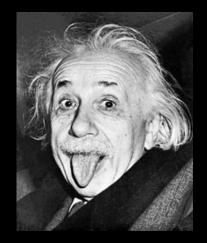
#### Without other ways of thinking, we would have not survived for long



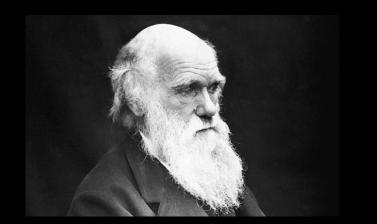
### The art (and power) of WHAT IF...

*'What if' is a very powerful question. A question that answers problems, discovers new ideas or could prove lethal.* 

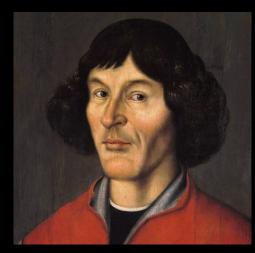
Chirag Mehta, The art of what if, Journal of Mathematics and the arts, 15, no. 2, (2021) 198–200



Albert Einstein What if I travel on top of a light ray?



Charles Darwin What if we are the outcome of a random process?



Nicolaas Copernicus What if the Earth is not the center of the Universe?



Georges Lemaître What if the Universe has a begining?



Giordano Bruno What if distant stars have planets with life?

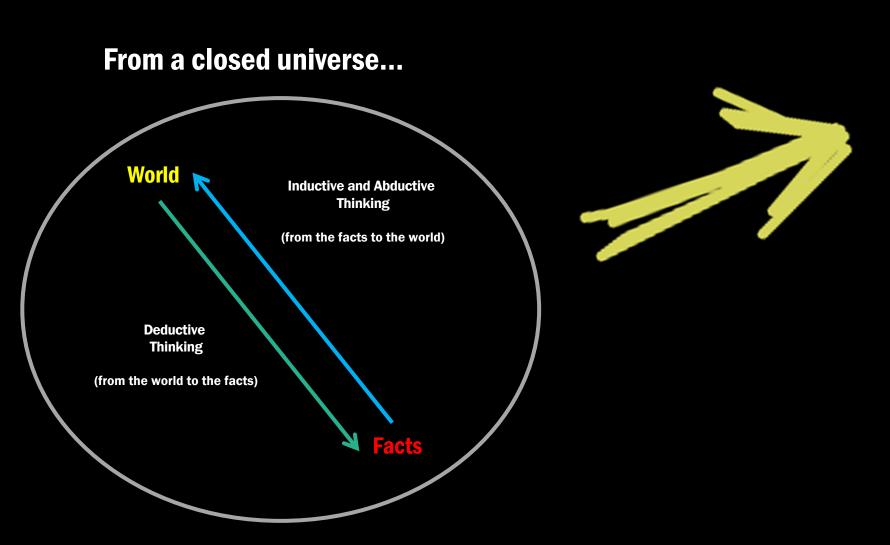


Max Planck What if energy is transmitted in lumps?

Deductive, inductive and abductive thinking

World Deductive Thinking (from the world to the facts) **Inductive and Abductive** Thinking (from the facts to the world) **Facts** 

# **Counterfactual Thinking**



#### ...to an open universe.

### From hypothetical worlds to conceivable facts and vice versa.

### Top level: "WHY NOT" thinking

### Mid level: "What if" thinking

Ground level: If...then thinking



Unless you do not embark into the daring and risky route of the "What if", your ideas will stay in the universe of the "if...then".

(my personal thinking)

# *"If...thens" for your projects*

## **If** this is a "Human Scientific Days" event, then:

- There should be keynote speakers.
- There should be discussion panels.
- There should be Q&As from the audience.
- There should be breakout session for special topics.
- Etc, etc, etc...

## **WHAT IF none of this takes place?**

## The challenge is yours for coming up with a never seen concept

Thanks a lot to all and questions