

The beginning of the univers: Matter and antimatter

# Lecture on the battle of year zero

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Departement of history of what happened a very long time ago,  
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## Lecture on the battle of year zero

- Intro
- Context : The endless war between matter & antimatter
- A new hypothesis : the tell of Simon Break

# Intro : how did we found the archive

The ghost of Cambridge's old dusty underground creepy library



# The two absolute kingdoms



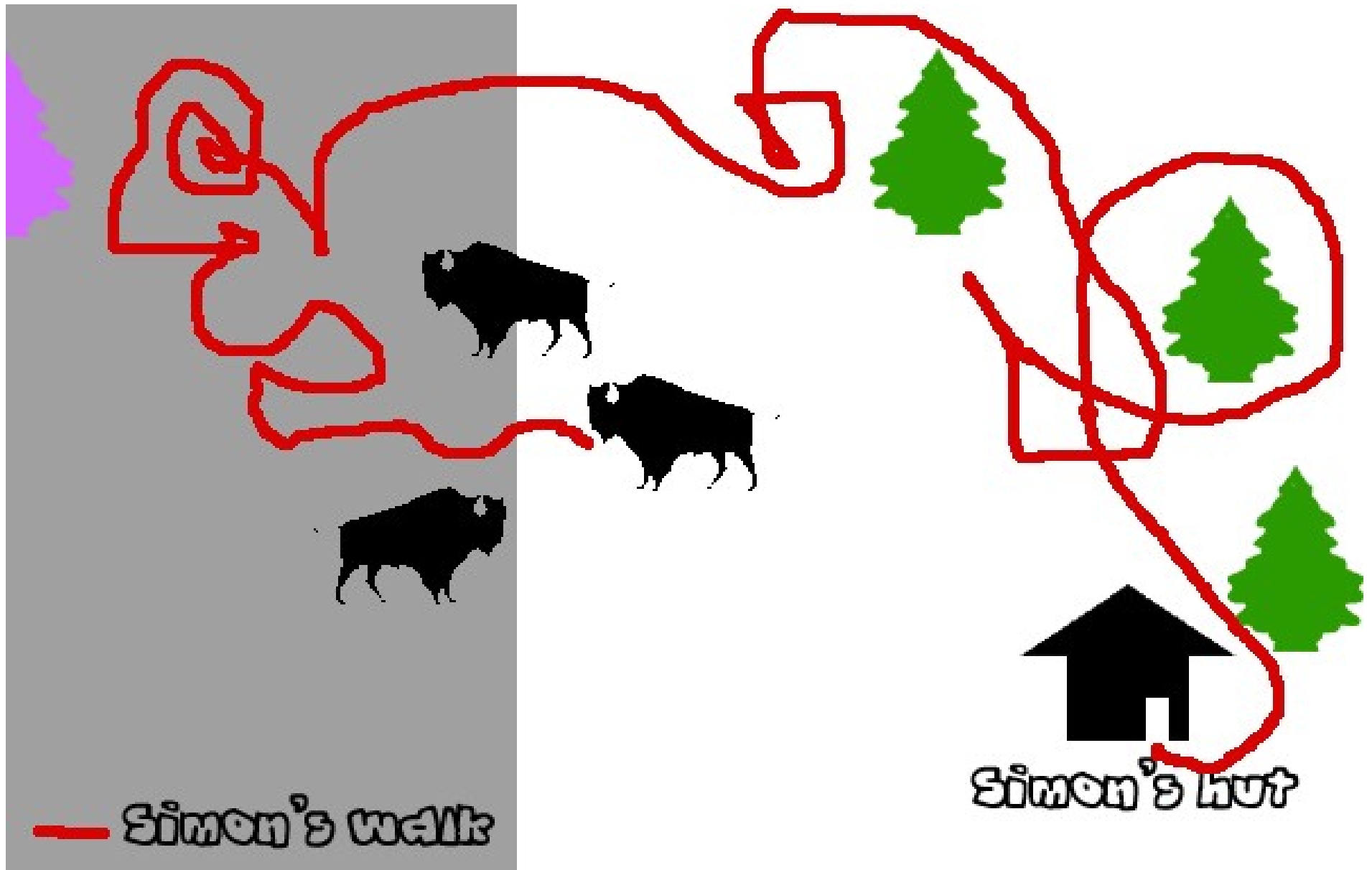
# Simon Break, the **worst** farmboy ever

- A boson breeder from the far end of the curvature of the universe, near the border between the two kingdoms
- A TV addict
- An alcoholic animal beater

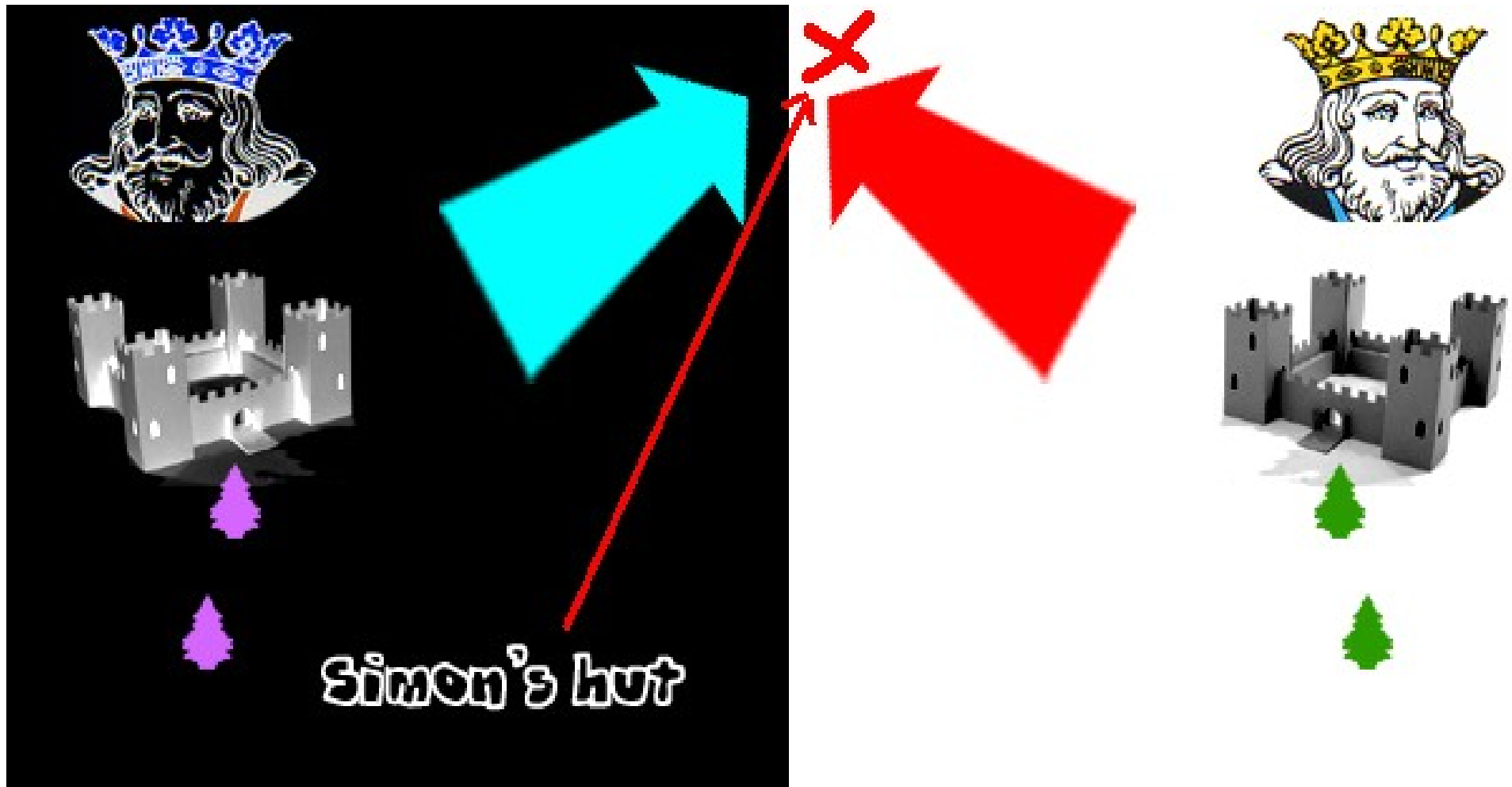
*(At the right, a boson with an important mass deficit and a very poor level of energy)*



# Rough day for Simon Break



The battle of  $t = 5.391e-44$  s.



# The victory of matter

Next battle : more matter than antimatter soldiers.

- new victory.
- even more survivors

Mathematically speaking, it can be represented by the Rungaki's equations :

$$\begin{aligned} - N_{a_{i+1}} &= N_{m_i} \left( 1 + \ln \left( \left| N_{a_i} - N_{m_i} \right| 4^{N_{m_i}} \right) \right) \\ - N_{m_{i+1}} &= N_{a_i} \left( 1 + \ln \left( \left| N_{m_i} - N_{a_i} \right| 4^{N_{a_i}} \right) \right) \end{aligned}$$



# Mathematical concerns

This problem is Depondt converging but Sator diverging.

By the theory of Aslangul's series, it was proved in a 42 pages article by Nicolas Treps that the only solution is :

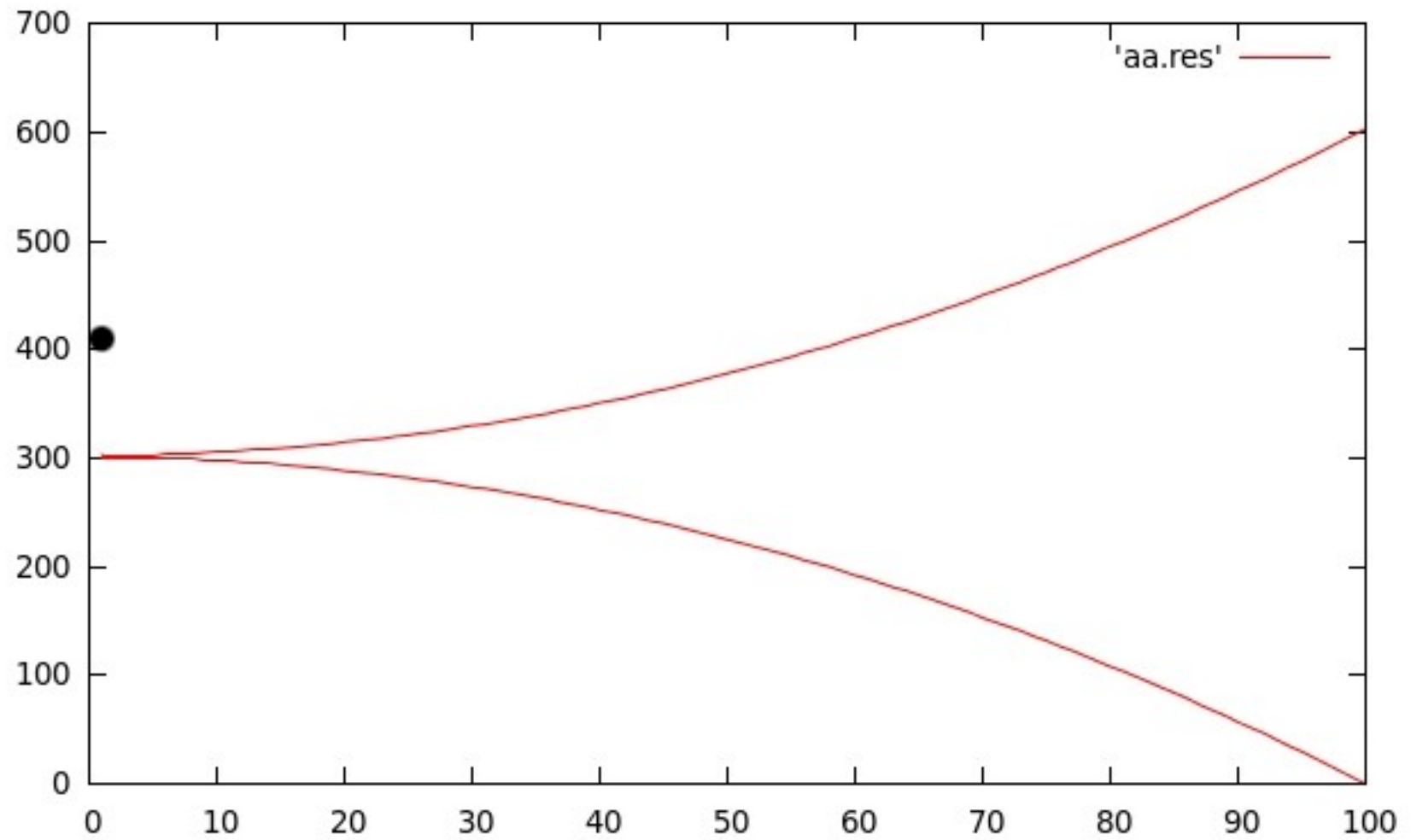
$$Na_i = (Na_0 - Nm_0) i^2/K + Na_0$$

$$Nm_i = (Nm_0 - Na_0) i^2/K + Nm_0$$

When  $Na=0$ , there is no more antimatter soldiers but there still is Matter soldiers ( $Nm>0$ ).

Matter had totally destroyed antimatter.

Evolution of the number of soldiers of both sides.



# THE END

A little « Symetry breaking »

=>An incredible serie of victories

Total annihilation of antimatter

*« Et paf, ca fait des chocapics »  
- Louis de Broglie*