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# Tecnologia e Homo Symbolicus

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# Agenda

- O que é tecnologia?
- Nosso ecossistema
- Do sílex ao silício
- Singularidade
- De artefato a símbolo
- Símbolos sociais

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*o que é tecnologia?*

**inteligência** *proposicional*

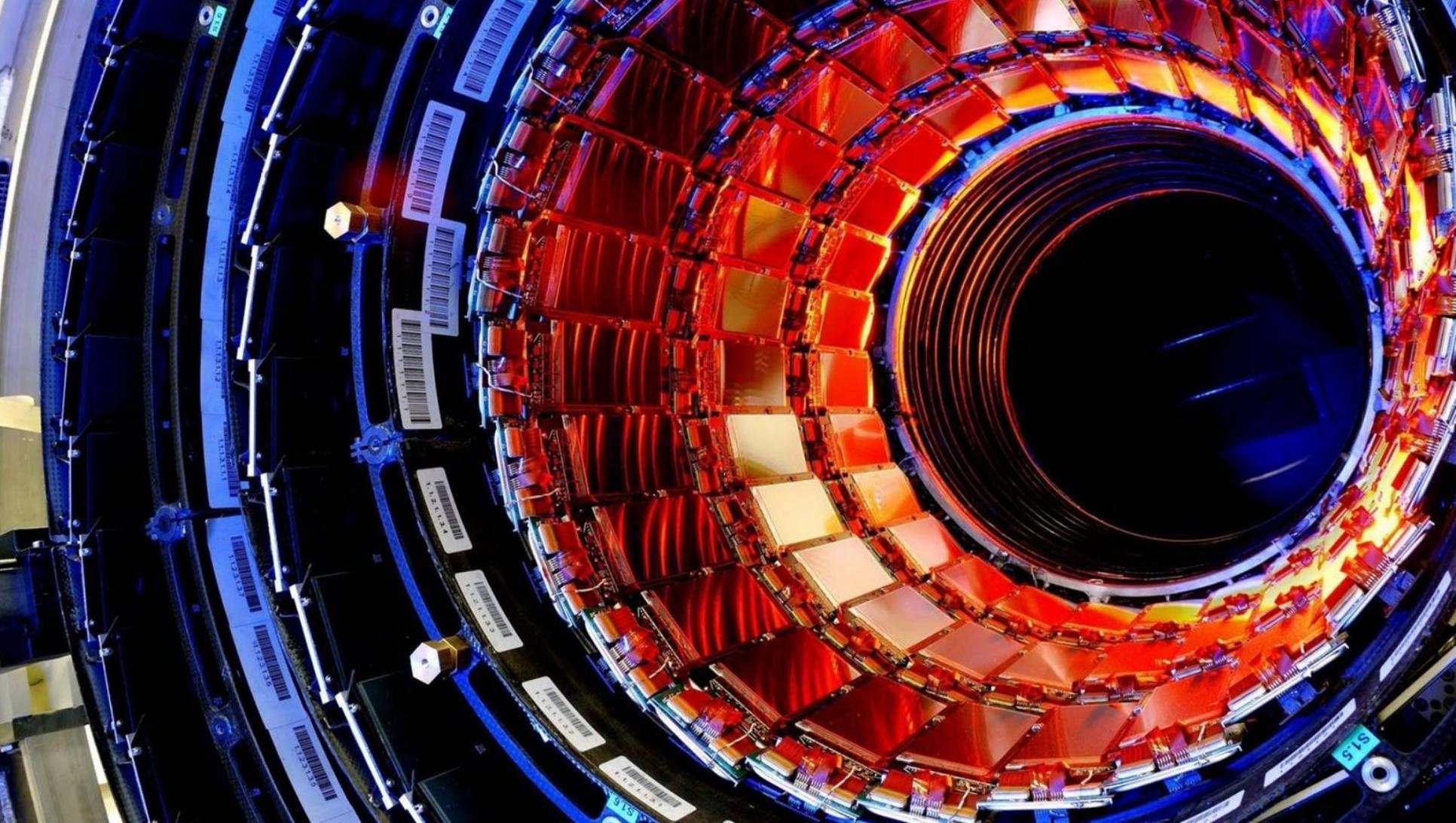
"nós *examinamos* e tomamos decisões práticas, comparamos os resultados pretendidos com as possibilidades de ação."

(The Butchers Blade, 1994)

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*o que é tecnologia?*

**tecnologia** *vs.* **artefato**





High  
Carbon

**K Sabatier**

100% Forged - Made in France - Thiers

By SABATIER AINE & PERRIER since 1834

**tecnologia vs. artefato**

o que *não* é tecnologia?

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***nosso ecossistema***

**habitat** *artificial*

**qualquer tecnologia  
suficientemente  
avançada *é indistinguível  
de magia.***

*evolução* da tecnologia

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*do sílex ao silício*

evolução tecnológica e a  
evolução humana  
caminham *juntas* ?



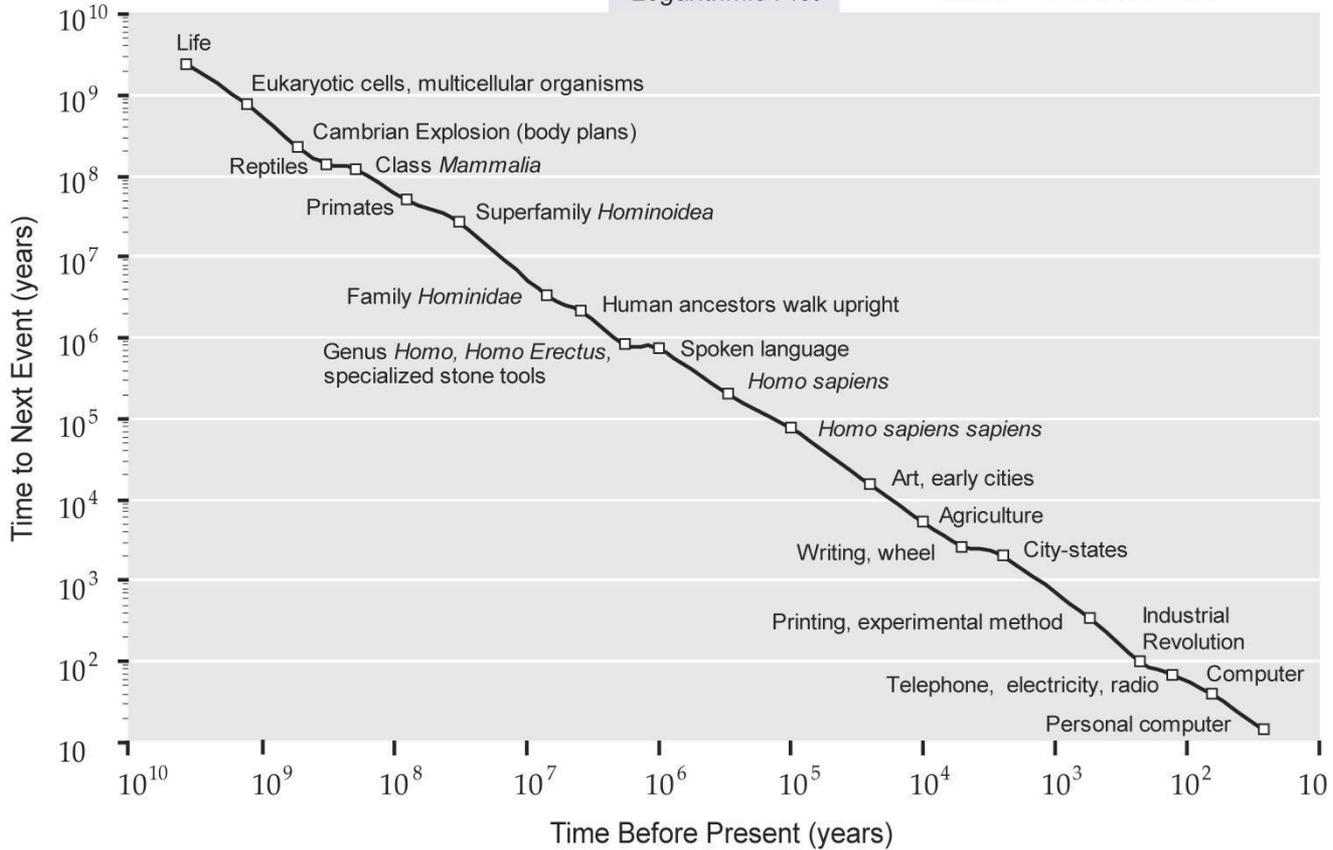
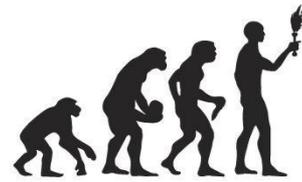
Montmorillonite  
tr. et.

blanc



# Countdown to Singularity

Logarithmic Plot

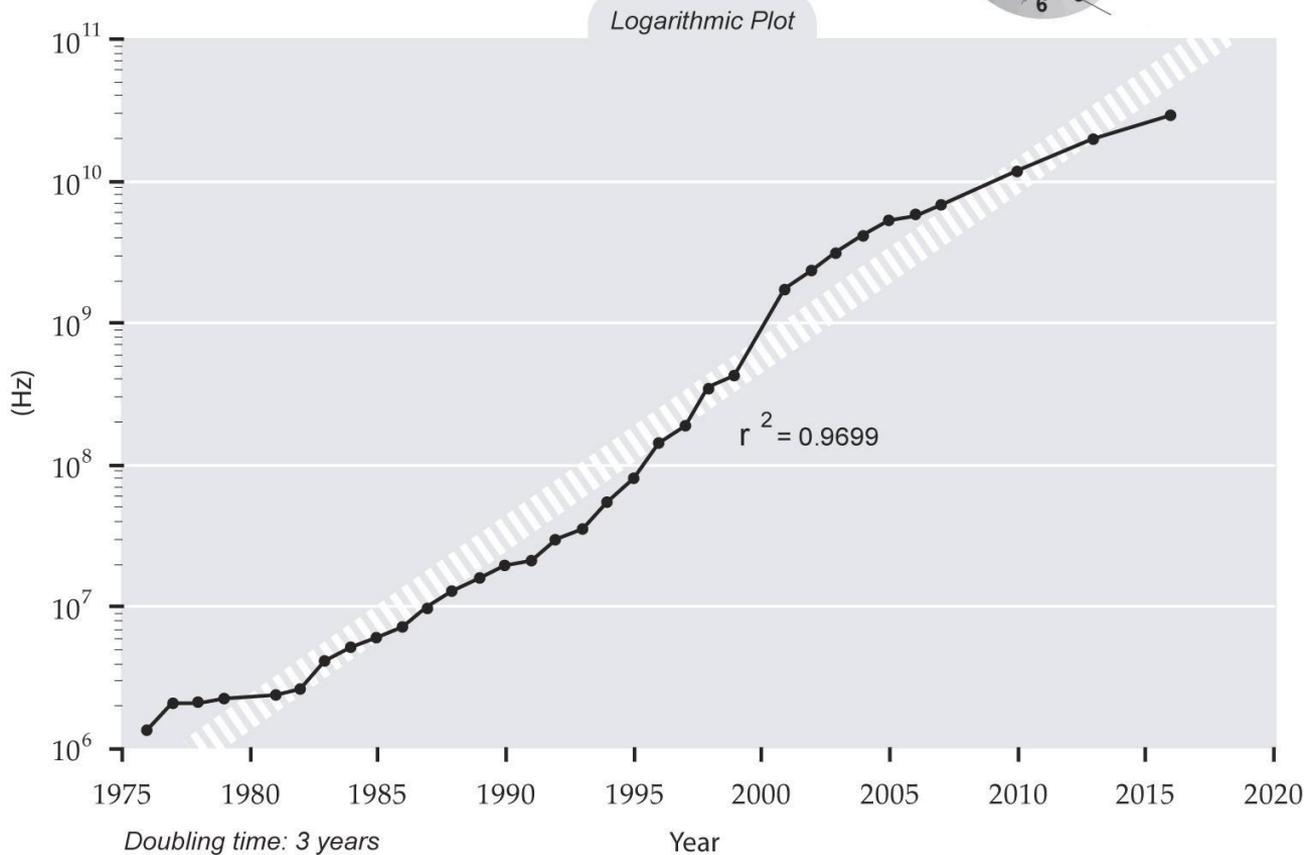
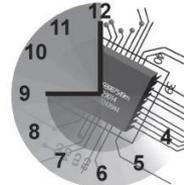


**somos *melhores* do que  
éramos antes ?**

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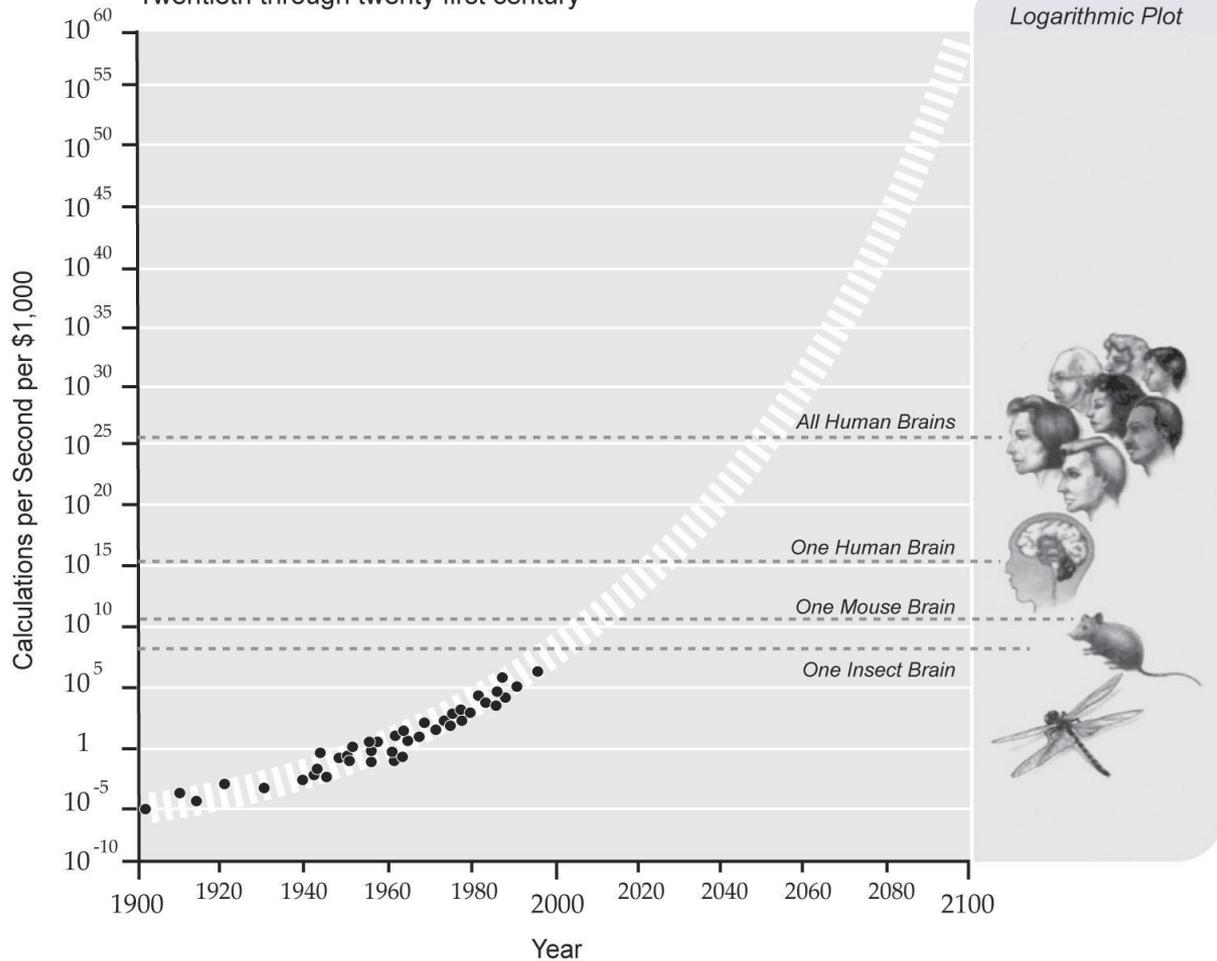
*singularidade*

# Microprocessor Clock Speed



# Exponential Growth of Computing

Twentieth through twenty first century



# 1 The accelerating pace of change ...



# 2 ... and exponential growth in computing power ...

Computer technology, shown here climbing dramatically by powers of 10, is now progressing more each hour than it did in its entire first 90 years

## COMPUTER RANKINGS

By calculations per second per \$1,000



**Analytical engine**  
Never fully built, Charles Babbage's invention was designed to solve computational and logical problems



**Colossus**  
The electronic computer, with 1,500 vacuum tubes, helped the British crack German codes during WW II

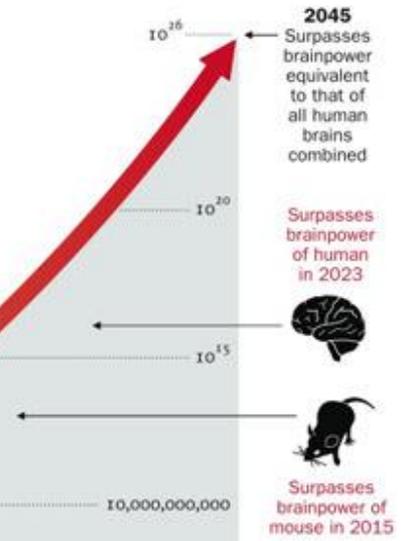


**UNIVAC I**  
The first commercially marketed computer, used to tabulate the U.S. Census, occupied 943 cu. ft.



**Apple II**  
At a price of \$1,298, the compact machine was one of the first massively popular personal computers

# 3 ... will lead to the Singularity



1900 1920 1940 1960 1980 2000 2011 2020 2045

ELECTROMECHANICAL → RELAYS → VACUUM TUBES → TRANSISTORS → INTEGRATED CIRCUITS



**Power Mac G4**  
The first personal computer to deliver more than 1 billion floating-point operations per second

Nvidia Tesla GPU & PC

Mac Pro

Dell Dimension 8400

Pentium II PC

Pentium PC

Compaq Deskpro 386

IBM PC

Data General Nova

Inteltec-8

DEC PDP-10

DEC PDP-4

IBM 1130

Whirlwind

IBM 1620

IBM SSEC

EDVAC

Datamatic 1000

Zuse 3

Zuse 2

ENIAC

National Eltis 3000

IBM Tabulator

Hollerith Tabulator

e quando a criação *supera*  
o criador?

**criação + criador**

**mas...** *quando?*





*wetooth*

*mesacyborg*

*por que* **tecnologia<sup>2</sup>** ?

**o que nos faz humanos**  
*nos torna mais ou menos*  
*humanos?*

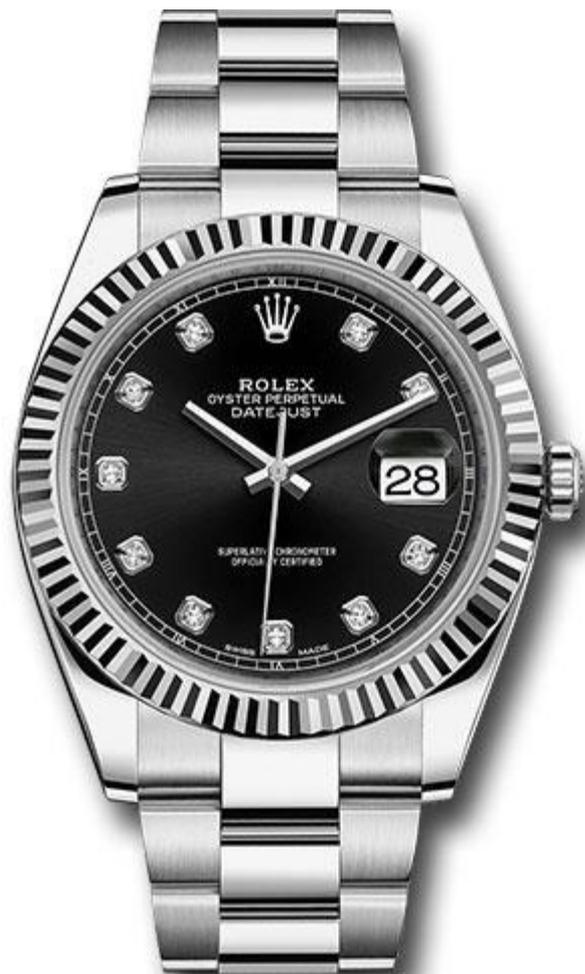
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*homo symbolicus*

**símbolo como *utilidade***



**utilidade como *símbolo***



**símbolo** *se une* a **utilidade**



*homo faber e homo symbolicus*



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***símbolo social***

**somos seres *sociais***

o símbolo *nutre* a tecnologia

"We choose to go to the moon in this decade and do the other things, not because they are easy, *but because they are hard.*"

(JFK, 1962)

o símbolo *nutre* a tecnologia

**artefato como *símbolo***

**nos comunicamos com símbolos**

**comunicação** *é útil?*

**simbologia é *utilidade*?**

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