



Sociedad Mundial del Futuro
VENEZUELA

José Luis Cordeiro



**José Luis Cordeiro
Helsinki, August 17, 2006
TransVision 2006**

¿Qué es el futuro?

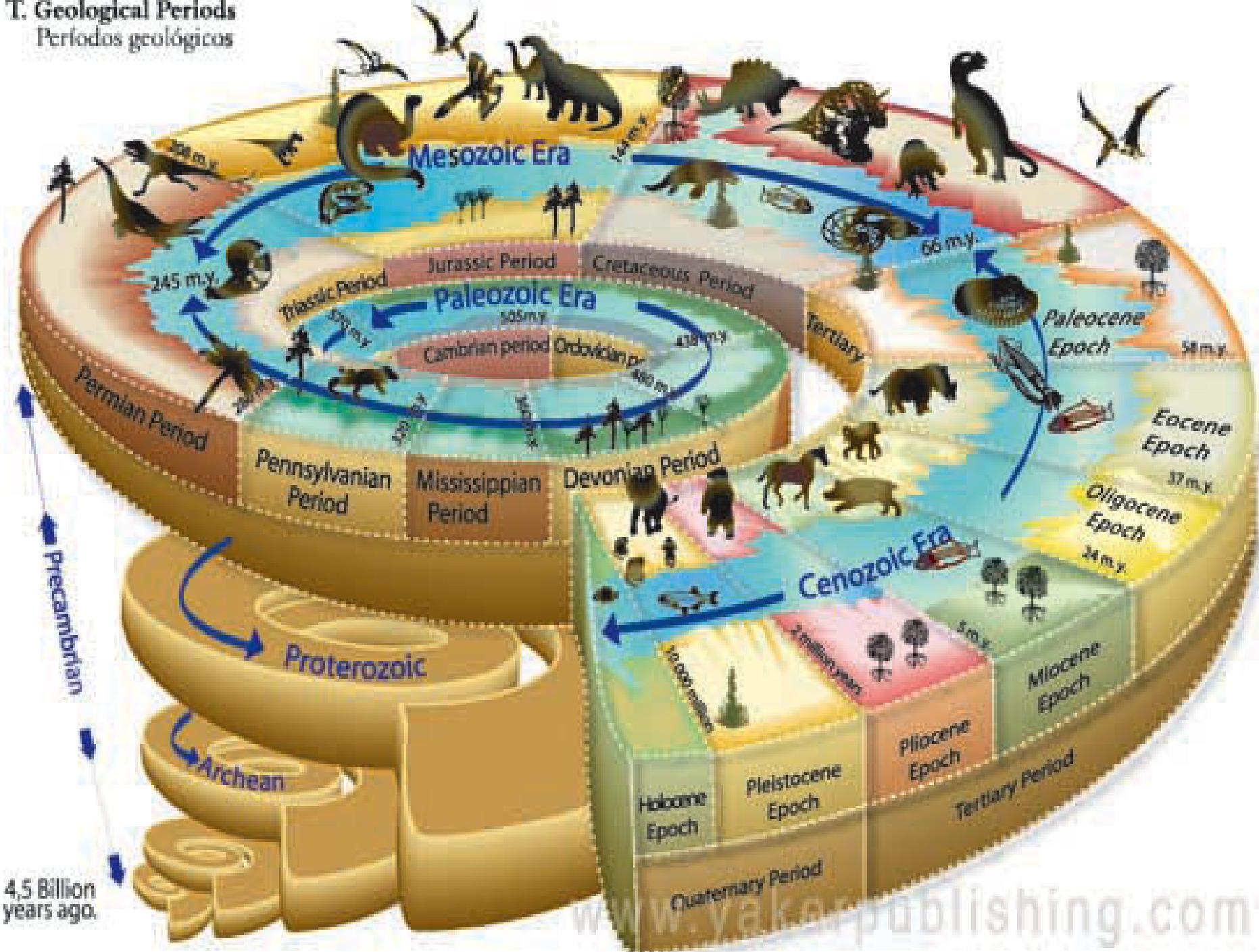
- *¡El futuro ya no es lo que era antes!*



Mafalda

T. Geological Periods

Períodos geológicos



Carl Sagan: The Cosmic Calendar

January	February	March	April	May	June	July	August	September	October	November
New Year's Day: The Big Bang	Milky Way forms			Sun and planets form	Oldest known life.(single celled).				First multi-cellular organisms	

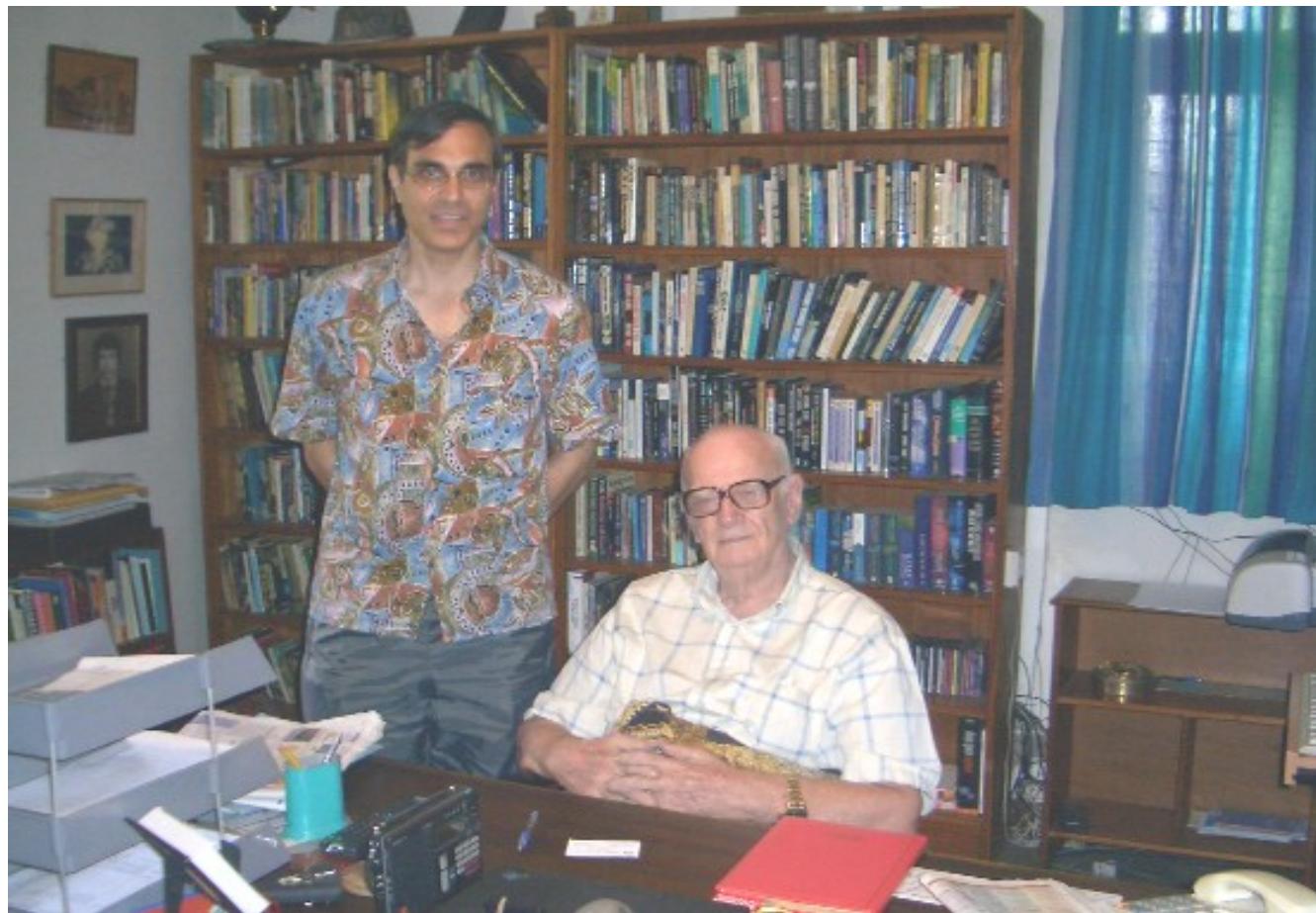
December						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15 Cambrian Explosion (burst of new life forms)	16	17 Emergence of first vertebrates	18 Early land plants	19	20 First four-limbed animals	21 Variety of insects begin to flourish
22	23	24 First dinosaurs appear	25 First mammalian ancestors appear	26	27 First known birds	28
29  Dinosaurs wiped out by asteroid or comet	30	31 10:15am Apes appear 9:24pm First human ancestors to walk upright 10:48pm Homo erectus appears 11:54pm Anatomically modern humans appear 11:59:45pm Invention of writing 11:59:50pm Pyramids built in Egypt 1 second before midnight: Voyage of Christopher Columbus				



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Sir Arthur C. Clarke in Sri Lanka





Las 3 Leyes de Arthur C. Clarke

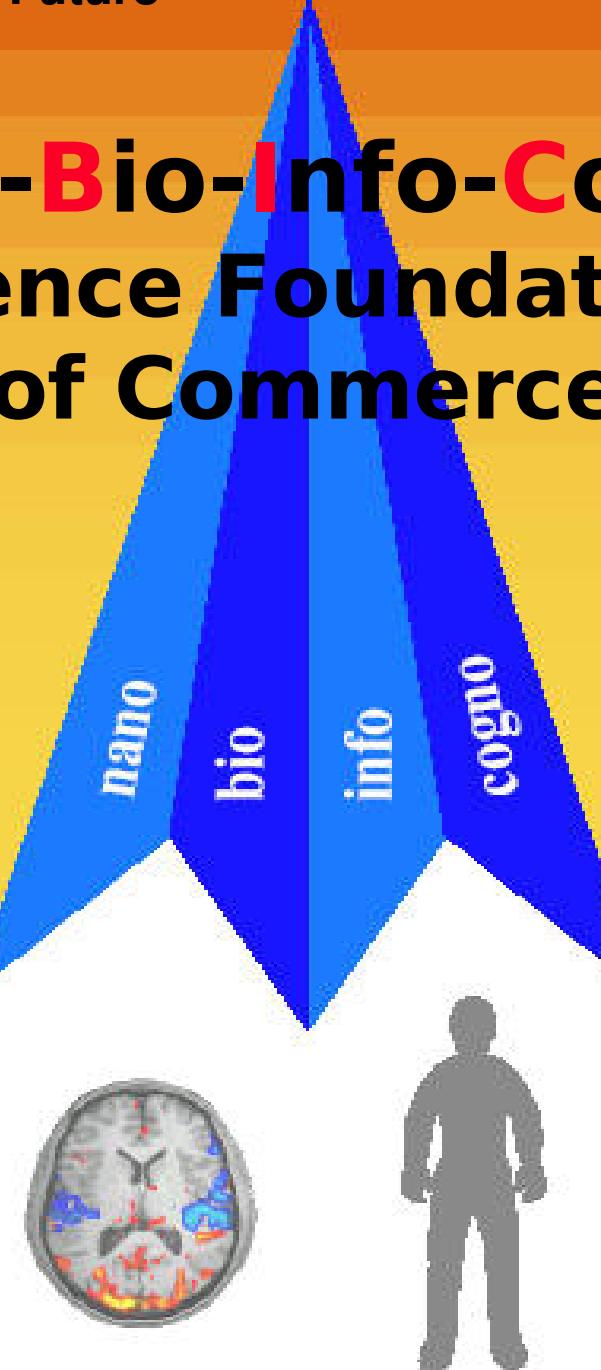
Primera Ley: Cuando un científico famoso dice que algo es posible, probablemente tiene razón. Pero cuando dice que es imposible, probablemente está equivocado.

Segunda Ley: La única manera de conocer los límites de lo posible es aventurarse más allá de ellos y llegar hasta lo imposible.

Tercera Ley: Cualquier tecnología suficientemente avanzada no se diferencia de la magia.

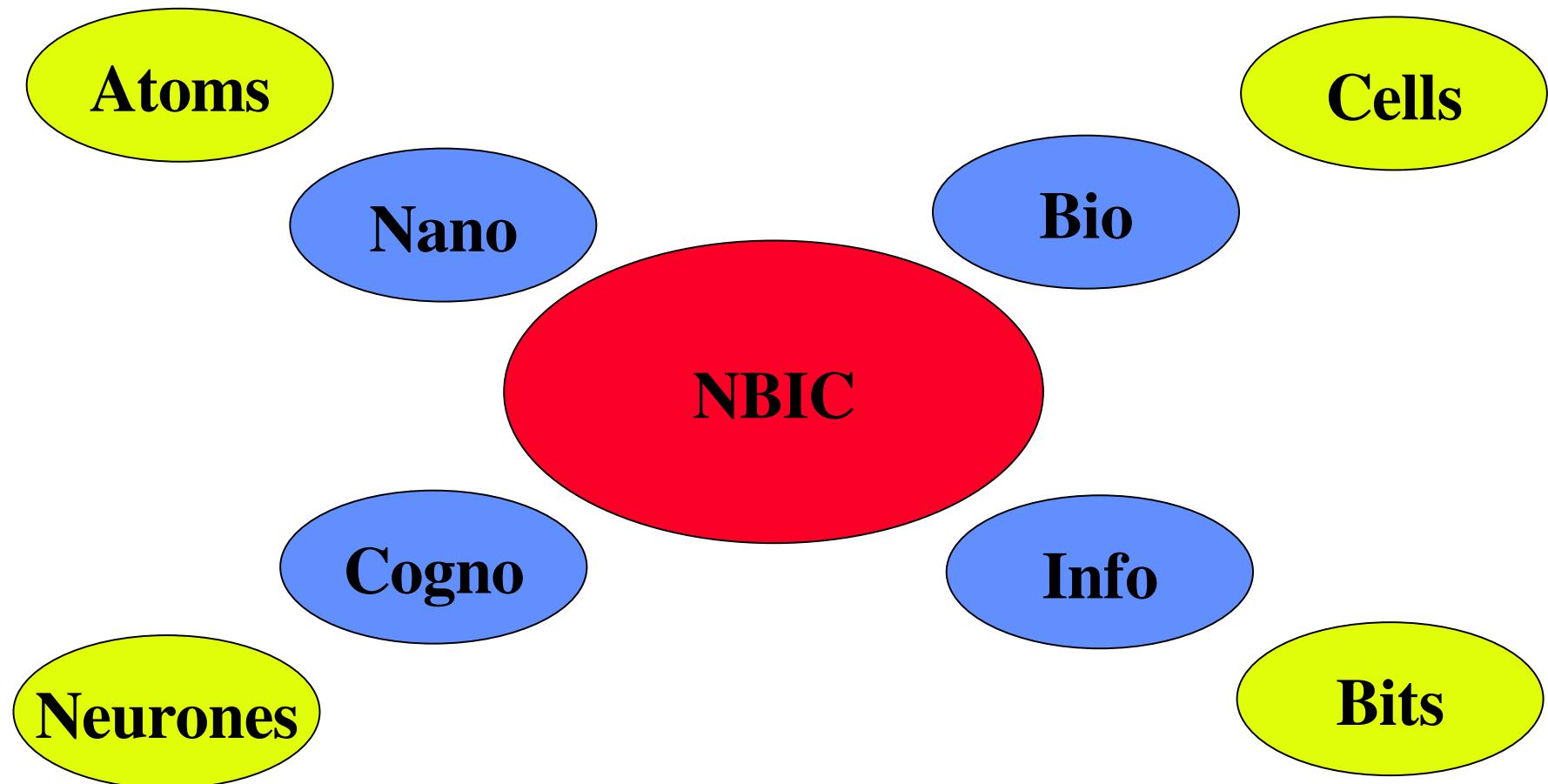


NBIC (Nano-Bio-Info-Cogno) National Science Foundation Department of Commerce





Technological Convergence: NBIC





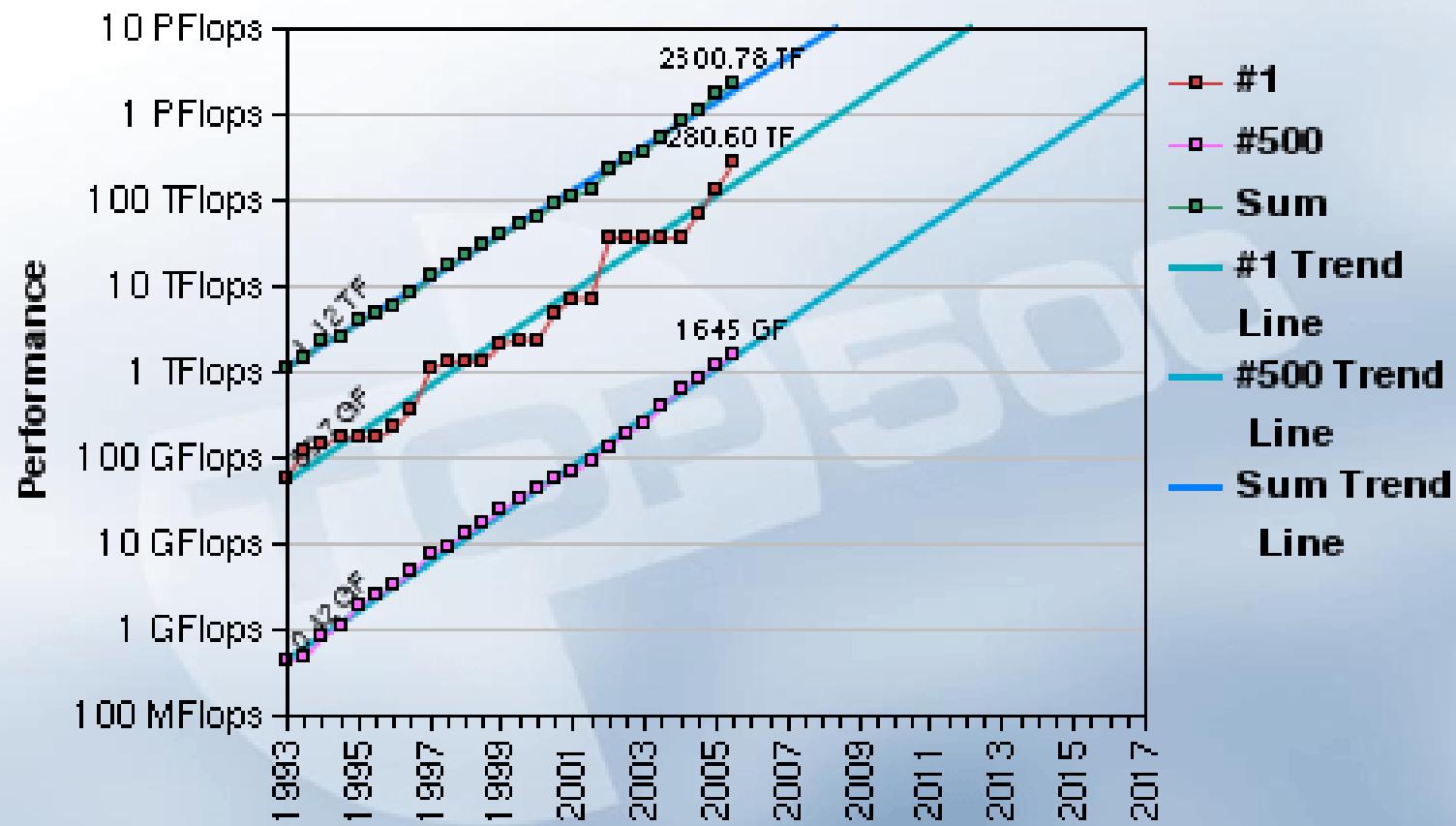
Moore's Law (1965)

Gordon Moore (Co-founder of Intel)



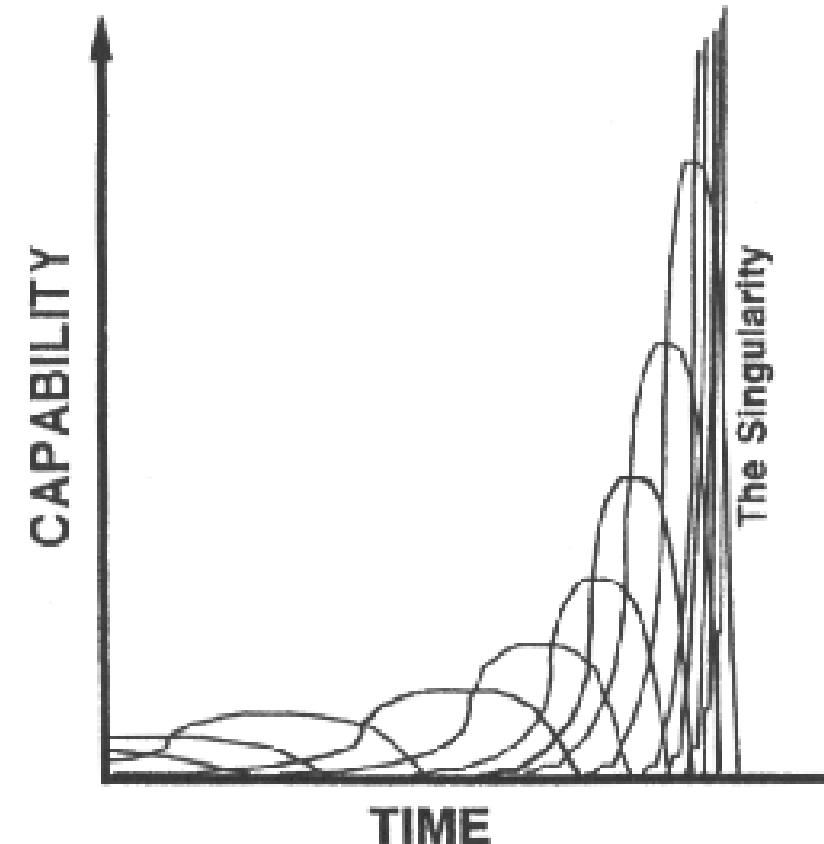
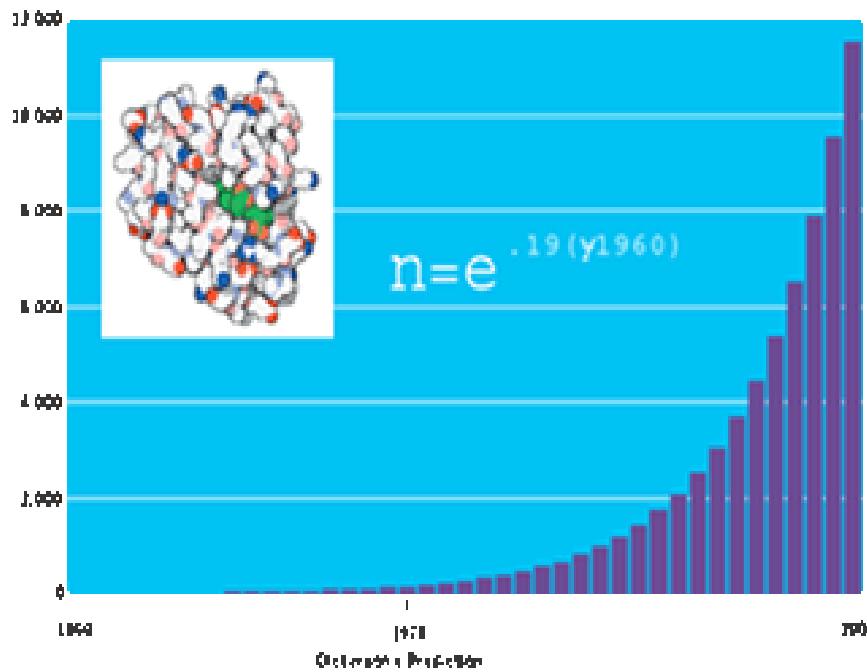


Projected Performance Development





Accelerating towards a “Singularity”





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Nano (**NBIC**)



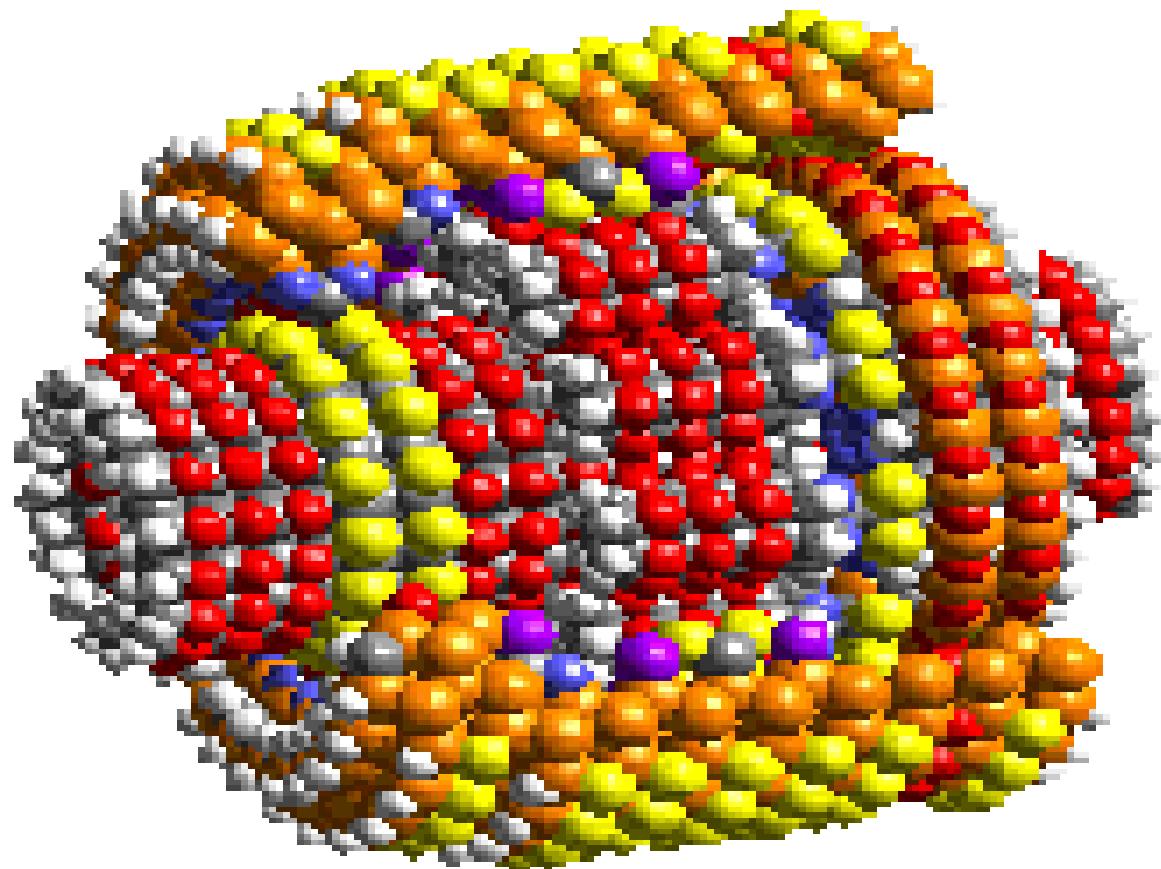


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Nanotechnology

www.nano.gov

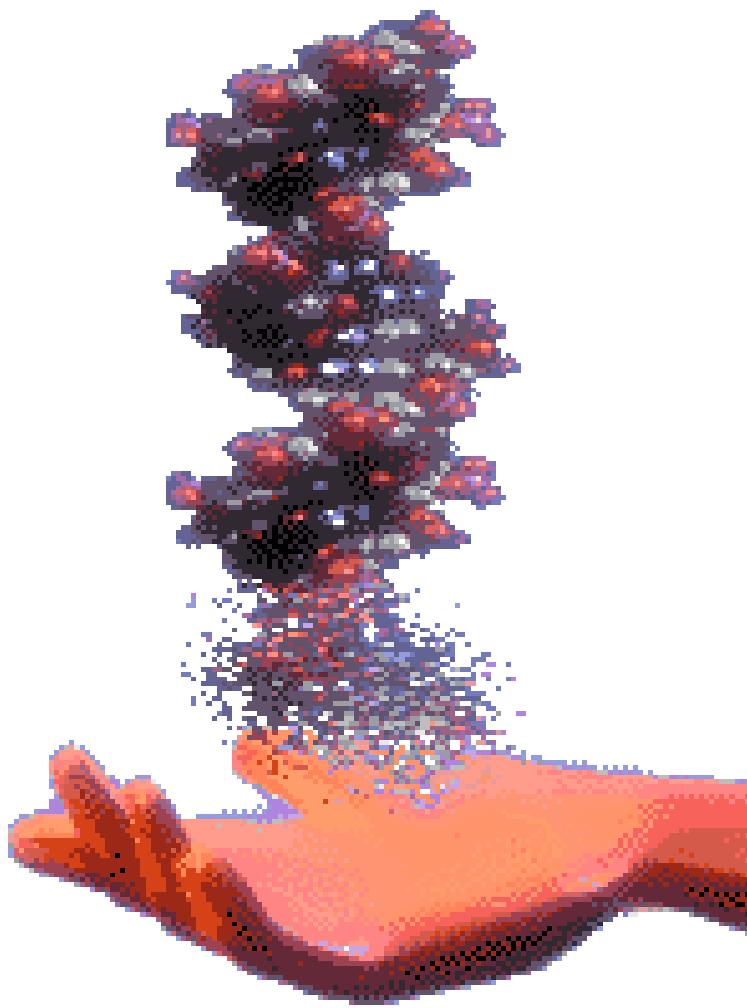




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Bio (NBIC)





The glow-fish



Customizable Bodies
Celebrity Franches
Companions





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Dolly: the clone





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Singapore: 2010





Russia: ???





HOLY COW

Guru Cordeiro meditating in India (Hinduism) and Sri Lanka (Buddhism)





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The attack of the clones





Info (NBIC)

Evolution of Computer Power/Cost

MIPS per \$1000 (1998 Dollars)

Million

1000

1

1/1000

1 Million

1 Billion

1900

1920

1940

1960

1980

2000

2020

Year

Brain Power Equivalent per \$1000 of Computer



1995 Trend

1985 Trend

1975 Trend

1965 Trend

Mac G3/266
Gateway G6-200
PowerMac 8100/80

Gateway-486DX2/66
Mac II

Macintosh-128K
Commodore 64

IBM PC
Sun-2

DG Eclipse
CDC 7600

DEC PDP-10
IBM 1130

Whirlwind
IBM 704

UNIVAC I
ENIAC

Colossus
IBM 7090

Burroughs 5000
IBM 360/75

IBM 7040
IBM 1620

IBM 650
ASCC (Mark 1)

Monroe Calculator
IBM Tabulator

Burroughs Class 16
Zuse-1

ASCC (Mark 1)

IBM 1620

IBM 650

ASCC (Mark 1)

ASCC (Mark 1)

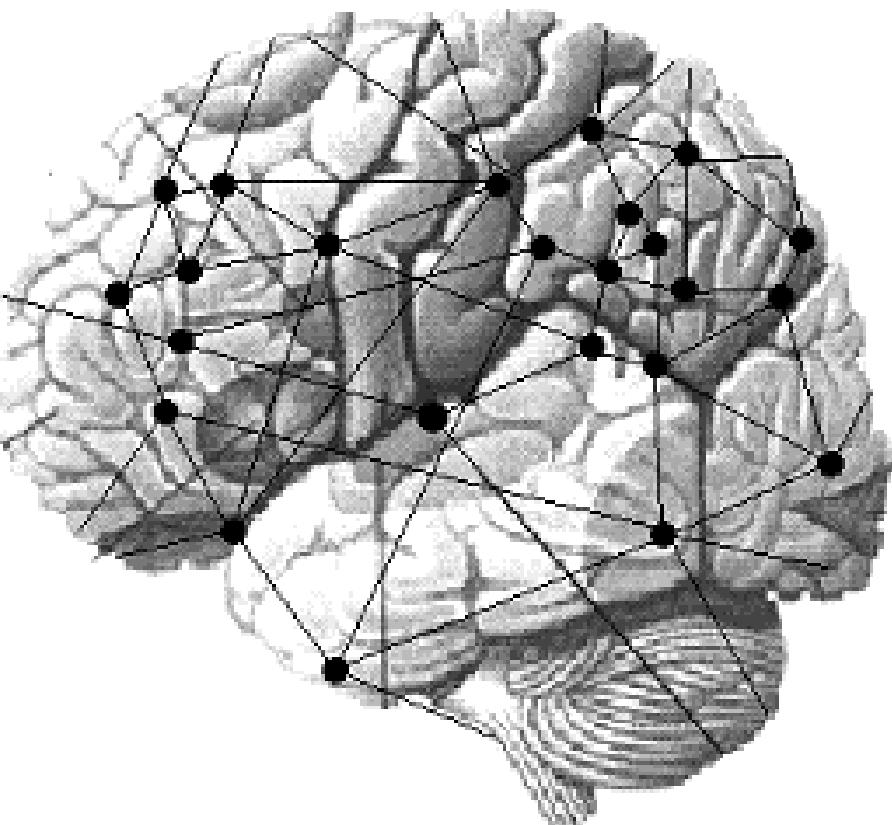
ASCC (Mark 1)

ASCC (Mark 1)

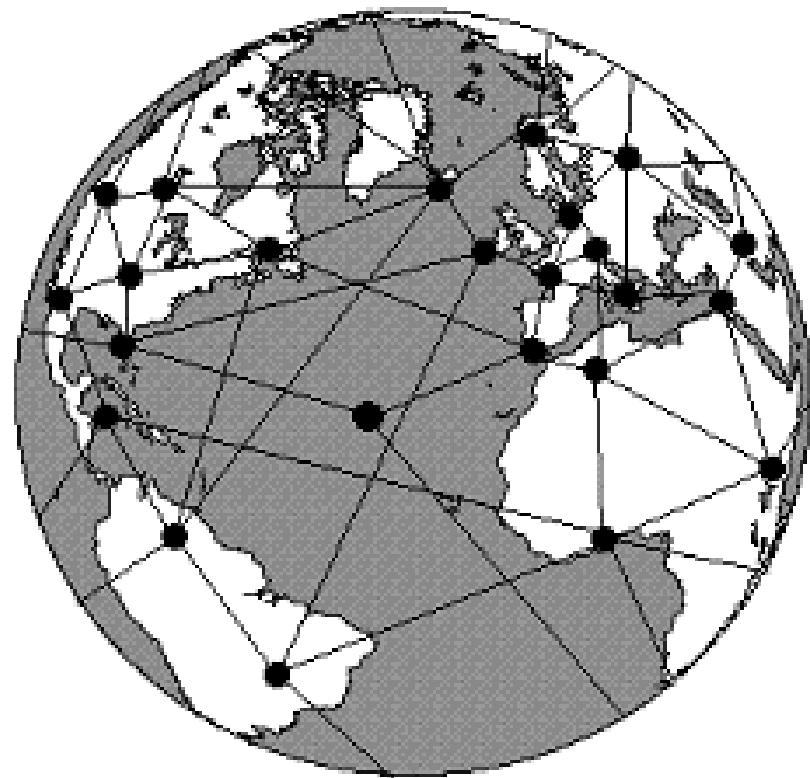


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Human Brain



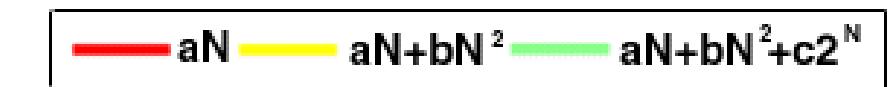
Global Network





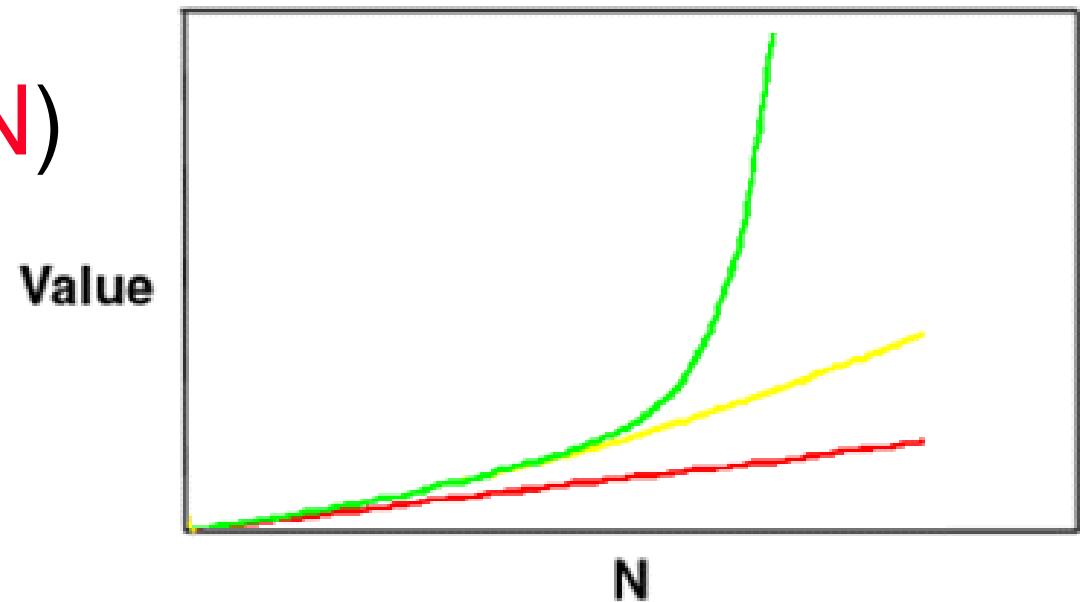
The laws of “Knowledge”

- Nodes (N)



- Metcalfe ($N \times N$)

- Reed (exp. N)



MIT: \$100 Laptop



Wikipedia - Microsoft Internet Explorer

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Back Search Favorites Home Presentación1 C:\Document... English2Kor... Microsoft Ex... 03:17 a.m.

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English
The Free Encyclopedia
1 115 000+ articles

Français
L'encyclopédie libre
279 000+ articles

日本語
フリー百科事典
208 000+ 記事

Svenska
Den fria encyklopedin
156 000+ artiklar

Português
A encyclopédia livre
131 000+ artigos

Deutsch
Die freie Enzyklopädie
393 000+ Artikel

Polski
Wolna Encyklopedia
232 000+ haszt

Nederlands
De vrije encyclopedie
185 000+ artikelen

Italiano
L'enciclopedia libera
155 000+ articoli

Español
La encyclopédia libre
114 000+ artículos

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English >

10 000+

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Fly To Local Search Directions

e.g. 37 25.818' N, 122 05.36' W

kuwait

kuwait

Places

Yosemite National Park

default

Google Earth default view

Temporary Places

Layers

Secondary School Districts

Unified School Districts

Churches/Cemeteries

Airports/Transportation

roads

Transit -- Local Rail

Transit -- Commuter Rail

Railroads

borders

City Boundaries

Postal Code Boundaries

Crime Stats

Census

US Congressional Districts

Populated Places

Geographic Features

3D Buildings

Water

Earthquakes

Volcanoes

DG Coverage - 2005

DG Coverage - 2004

DG Coverage - 2003

DG Coverage - 2002



Pointer 0°0'0.00" N 0°0'0.00" E

Image © 2006 NASA

© 2005 Google

Lodging

Roads

Terrain

Dining

Borders

Buildings



start

File Explorer

My Computer

My Documents

My Pictures

My Videos

My Music

My Folders

My Computer

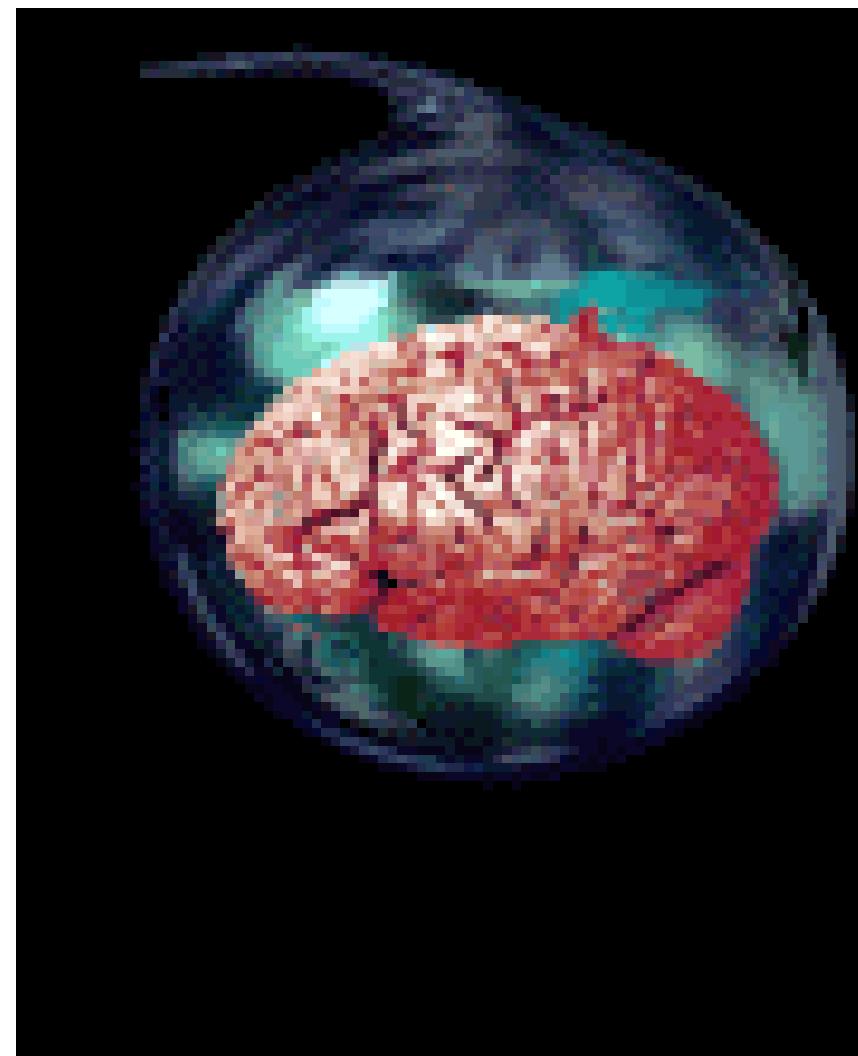
My Network

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Cogno (NBIC)



Riken Brain Institute

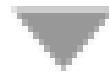
www.brain.riken.go.jp



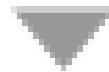
Riken Brain Institute

www.brain.riken.go.jp

1997



2003



2008



2013



2018

Understanding the Brain

Elucidation of brain functions

Protecting the Brain

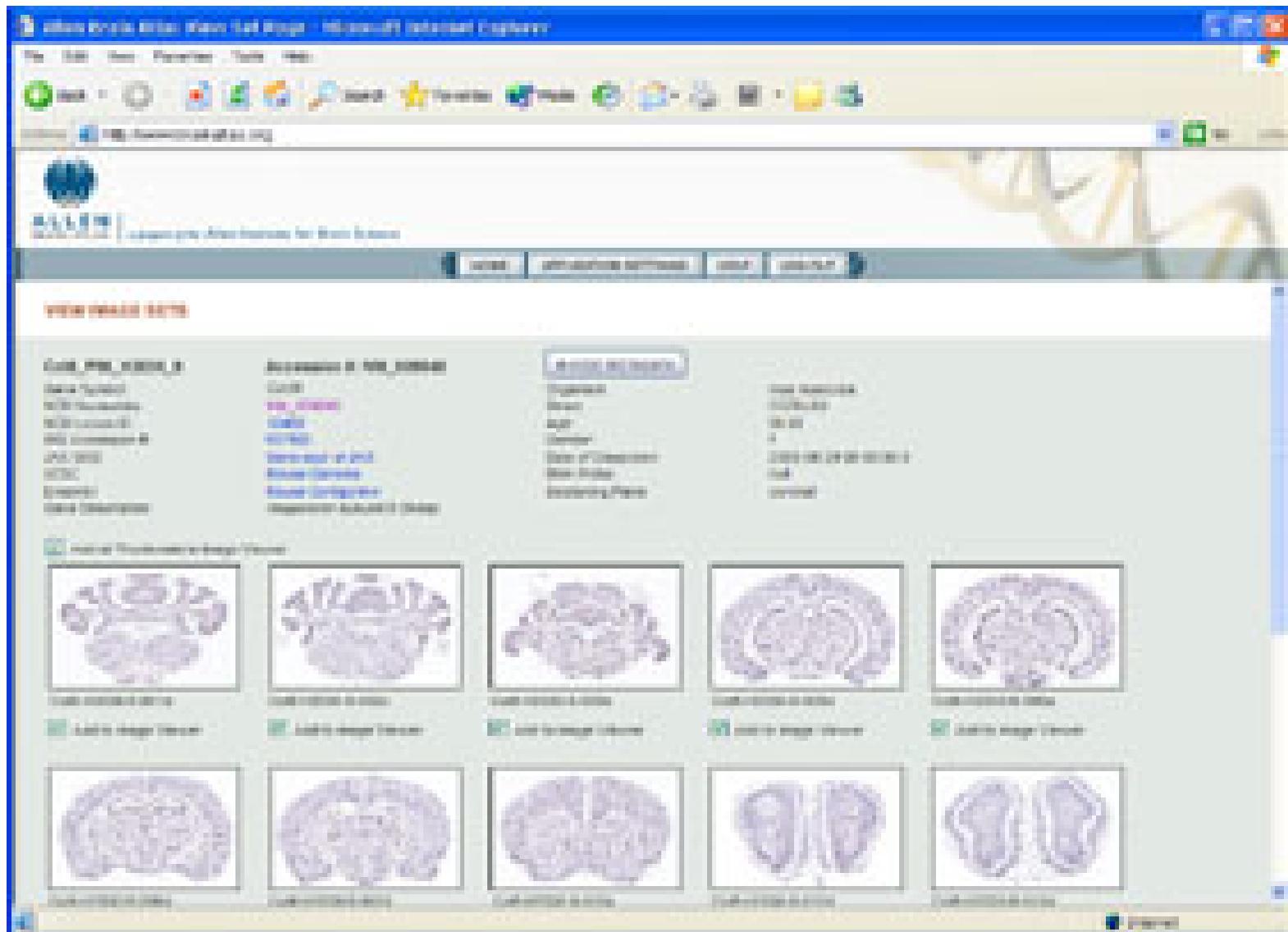
Elimination of brain disorders

Creating the Brain

Development of brain-style computers



Paul Allen: www.BrainAtlas.org



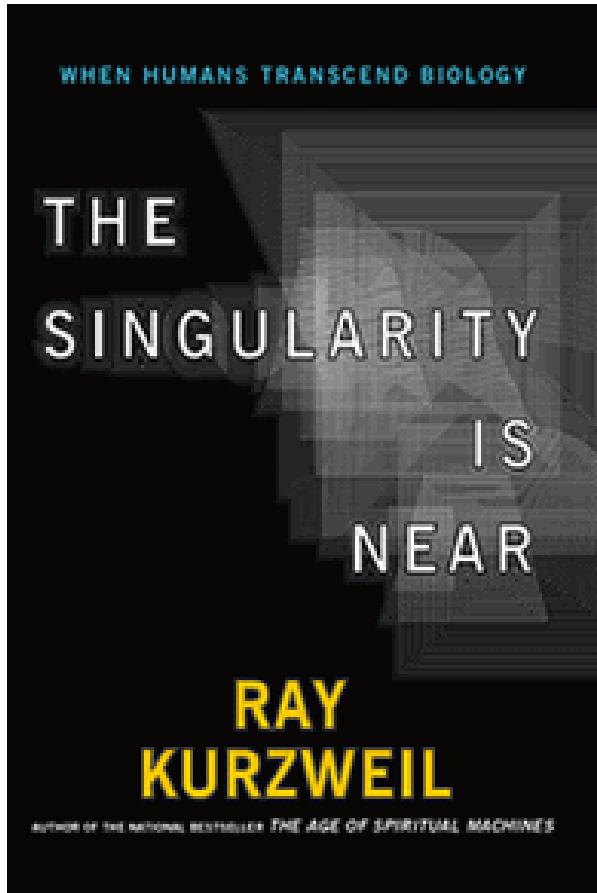


What is a **brain**?



- 1 **brain**
- 10^{11} **neurones**
- 10^{14} **synapsis**
- 10^{17} **computations**
(per second)
- **And the mind?**
- **And the spirit?**
- **And the soul?**

Ray Kurzweil (MIT): The Singularity is Near



- **Singularity.com**
- **Bill Gates**

Towards 2020 Science: A Draft Roadmap

Microsoft 2020 Science

KurzweilAI.net - Microsoft Internet Explorer

File Edit View Favorites Toc > Address http://www.kurzweilai.net/brain/frame.html?startThought=Artificial%20Intelligence%20(AI)

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KurzweilAI.net

POWERED BY THE BRAIN

Search: accelerating

Artificial intelligence (AI)

The field of research that attempts to emulate human intelligence in a machine. Fields within AI include knowledge-based systems, expert systems, pattern recognition, automatic learning, natural language understanding, robotics, and others. Commercial applications of AI are diverse, including applications in medicine, financial systems, and software designed to assist humans with impairments (voice, gesture, and facial recognition).

Pages about our sponsors that refer to Artificial intelligence (AI)

[3DLabs: 3DLabs](#)

Articles on KurzweilAI.net that refer to Artificial intelligence (AI)

[The Age of Intelligent Machines: Footnotes](#) By [Ray Kurzweil](#)

[What is Friendly AI?](#) By [Eliezer S. Yudkowsky](#)

[Chapter 5: Thinking Machines](#) By [K. Eric Drexler](#)

[What Is Artificial Intelligence?](#) By [John McCarthy](#)

[Essentials of General Intelligence: The direct path to AGI](#) By [Peter Voss](#)

[The Age of Intelligent Machines: Intelligent Knowledge-Based Systems--AI in the U.K.](#) By [Brian W. Oakley](#)

[Chapter 11: The Engines of Destruction](#) By [K. Eric Drexler](#)

[How Long Before Superintelligence?](#) By [Nick Bostrom](#)

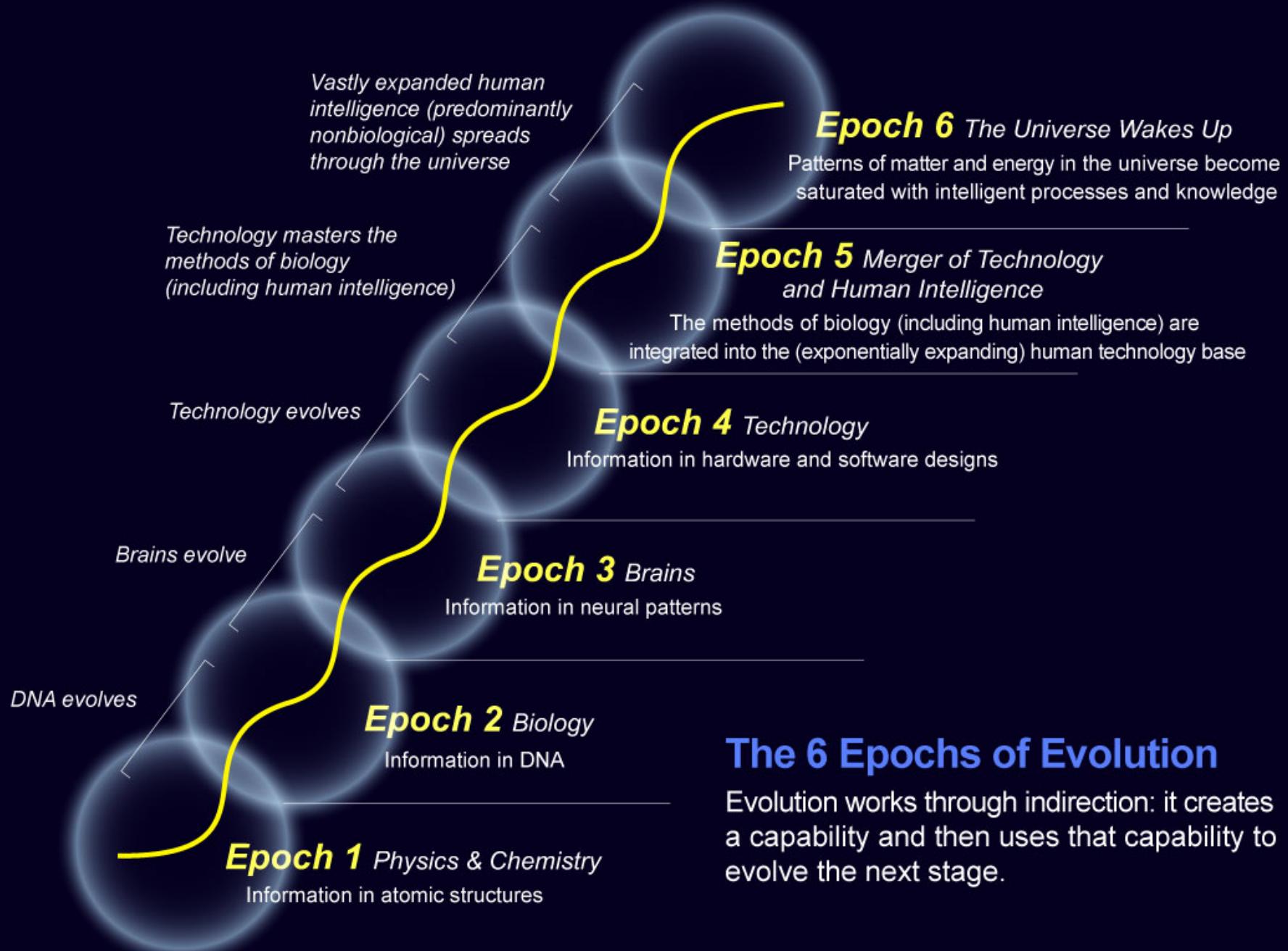
http://www.kurzweilai.net - Ra...

SEE RAMONA MOVE!
HEAR RAMONA SPEAK!

INSTALL THE LIFE FX PLAYER

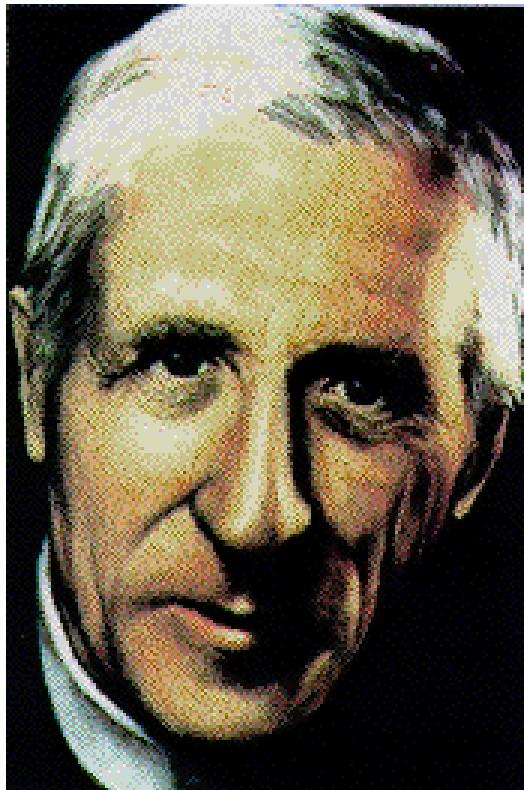
I'm unfamiliar with kuwait. If this isn't related to KurzweilAI.net or our contributors' thoughts then I doubt if I know the answer. You can always email my webmaster too.

[Chat with Ramona - New Virtual Chat Mode](#)

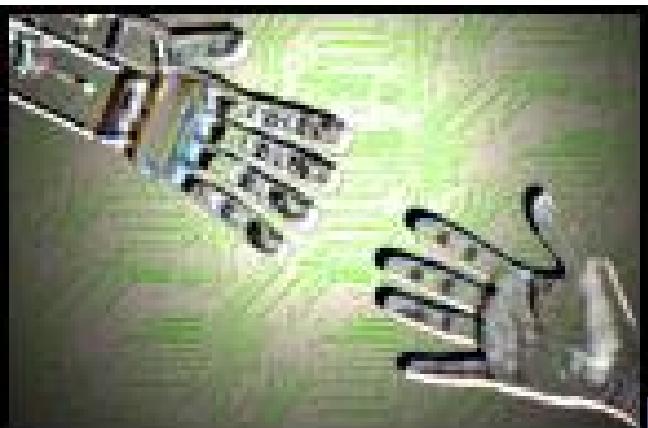




We are not human beings having a **spiritual experience**; we are spiritual beings having a **human experience**

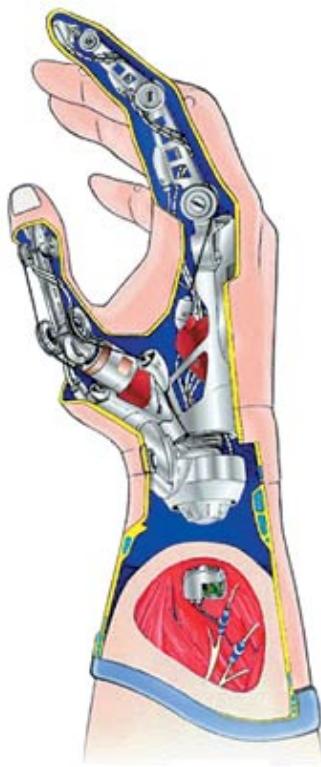


- Pierre Teilhard de Chardin (Jesuit, 1881-1955)
- Geosphere (physics),
- Biosphere (biology),
- Noosphere (memetics)



Humans and machines!

Humans or machines?





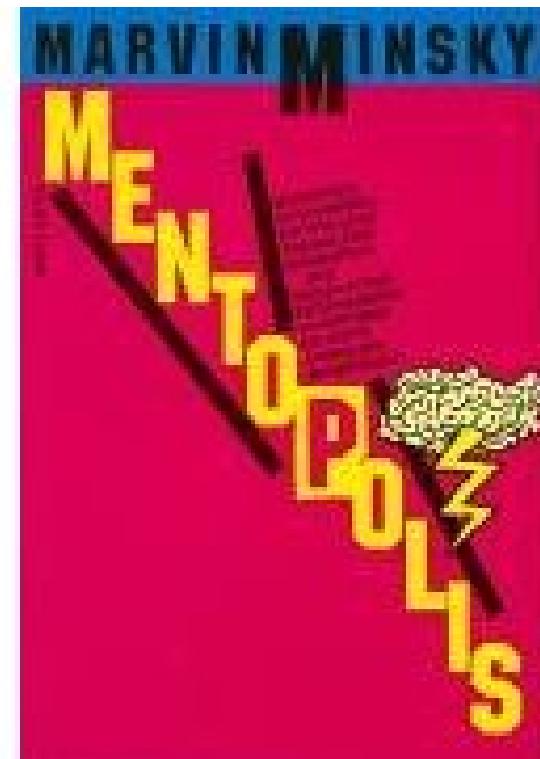
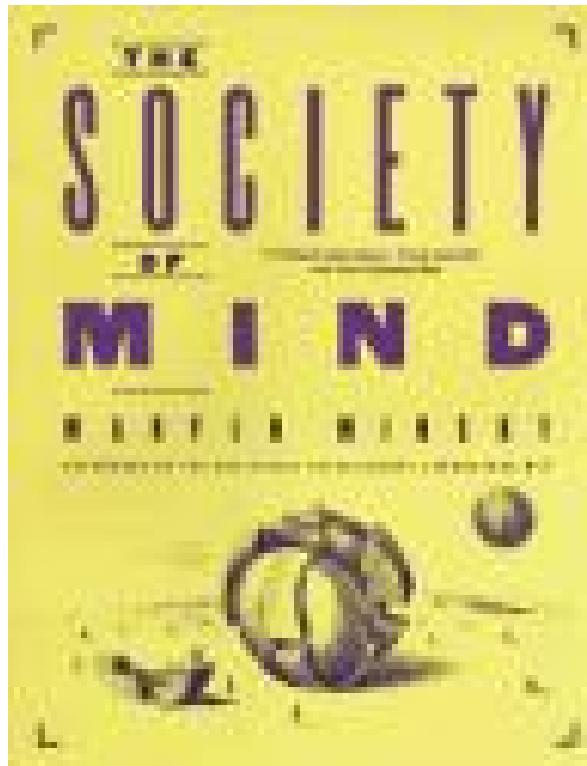
Human technology and technological humans



- Virtual reality
- Computer minds
- Computer Gods
- Simulations

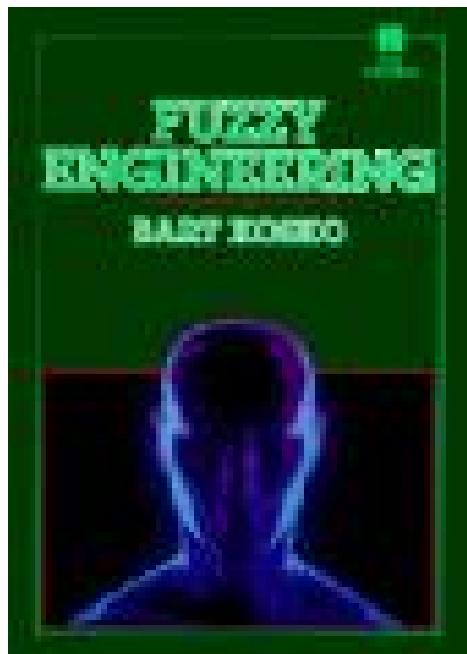


Marvin Minsky (MIT)
Will robots inherit the earth?
Yes, but they will be our children!





Bart Kosko: Biology is not destiny. It was never more than tendency. It was just nature's first quick and dirty way to compute with meat. **Chips are destiny.**





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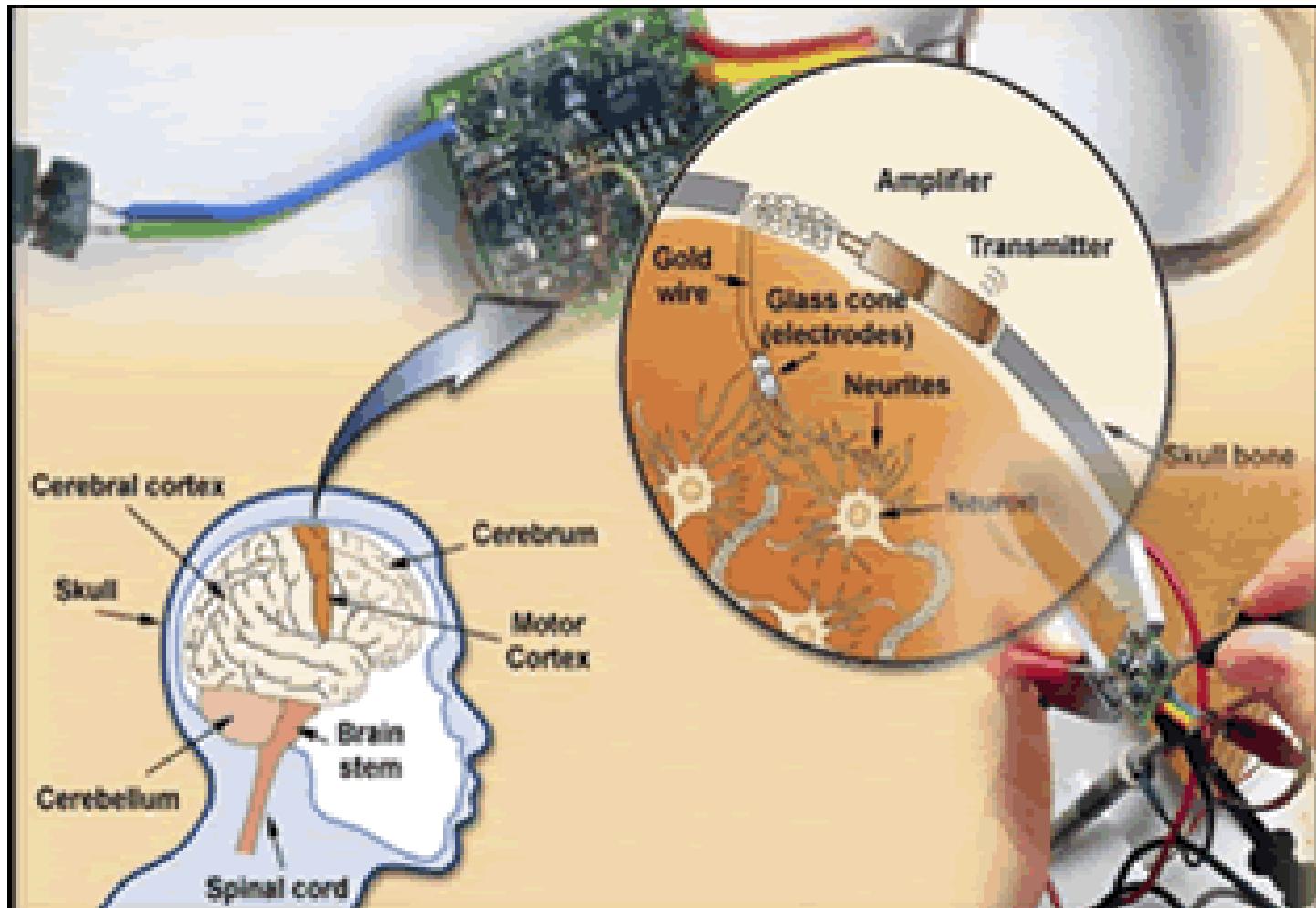
Kevin Warwick: *I, Cyborg*

www.KevinWarwick.org





Brain implants: Cyberkinetics Inc.



images courtesy Georgia Tech

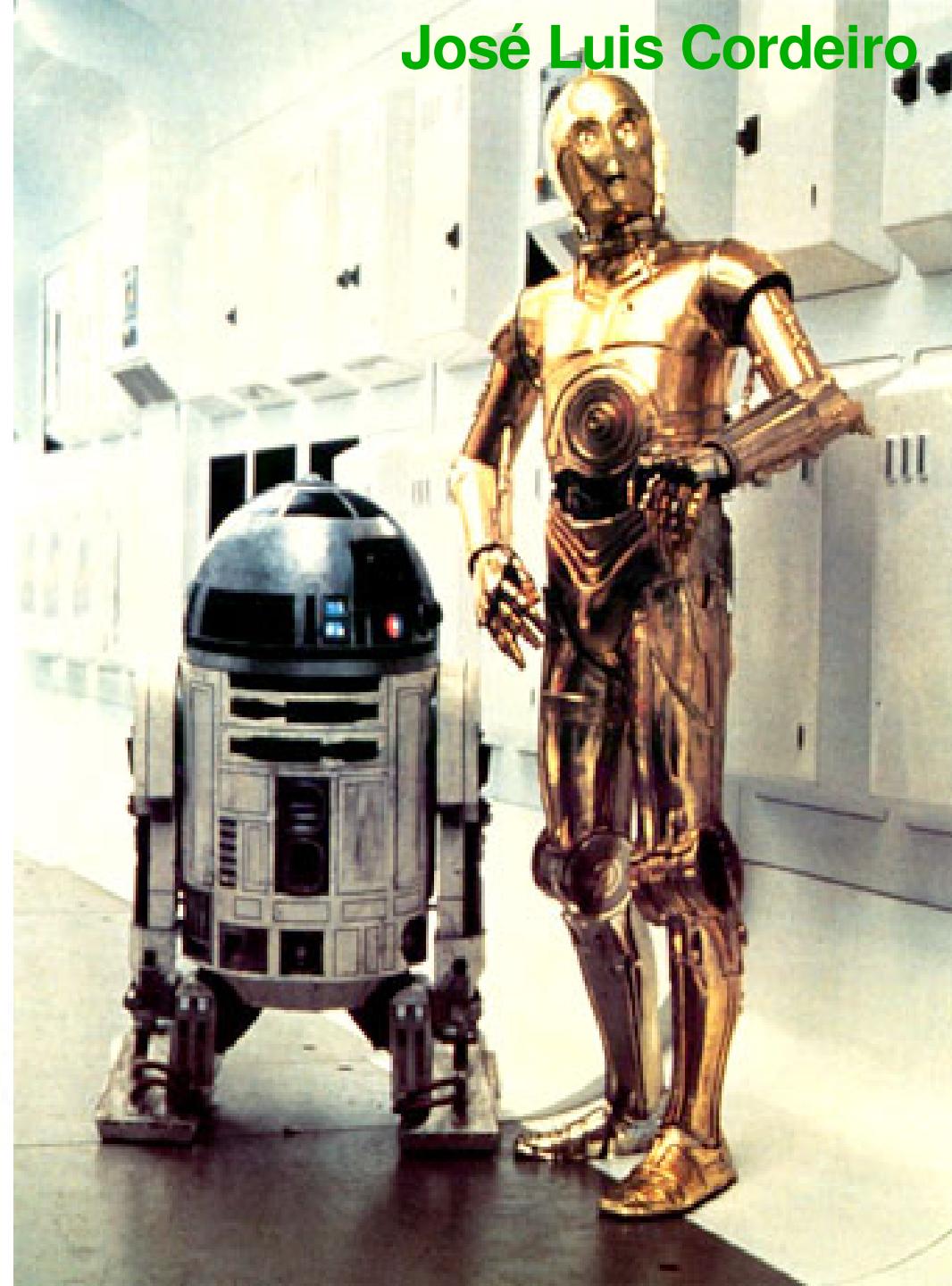


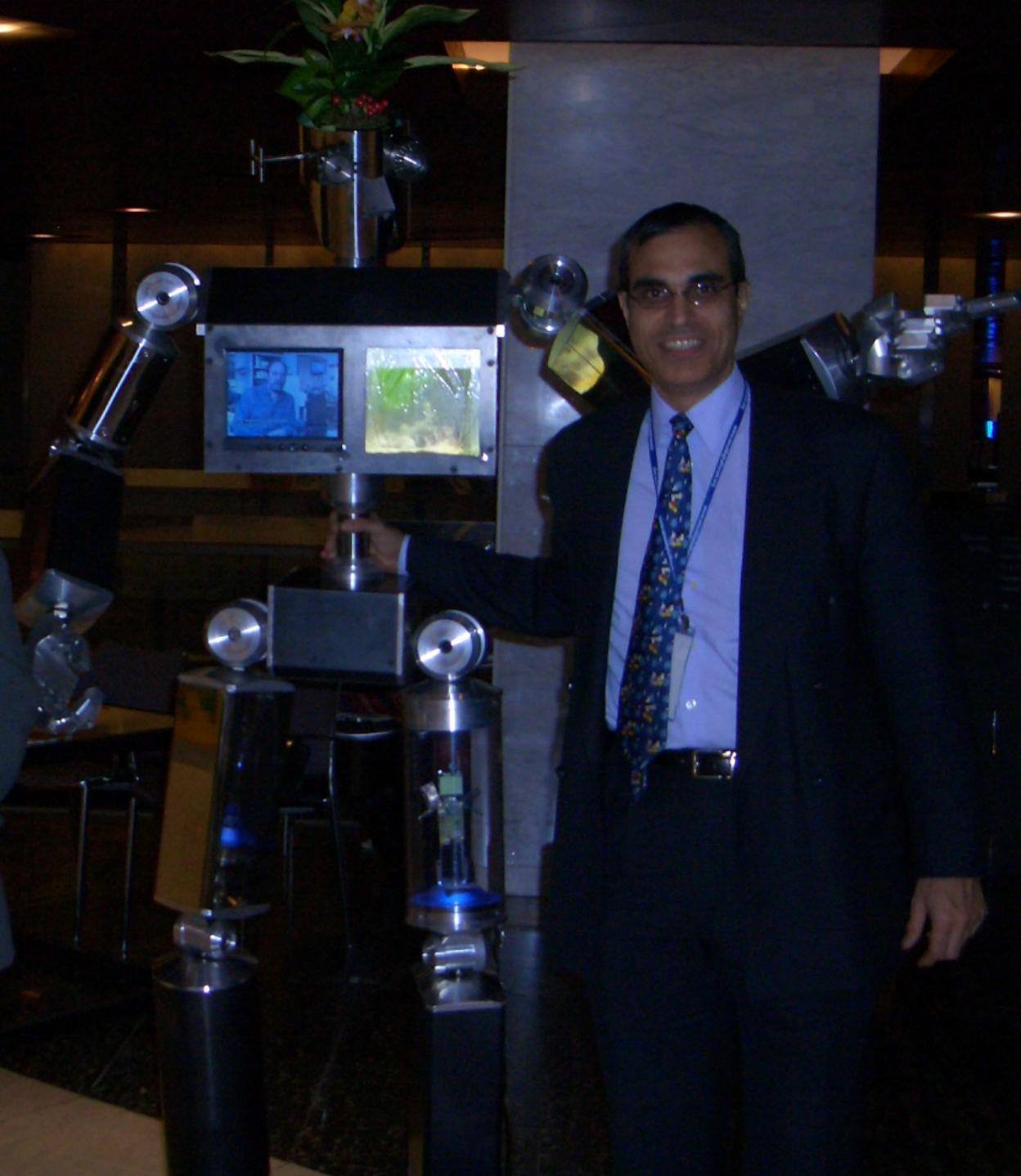
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Sony: AIBO
www.aibo.com



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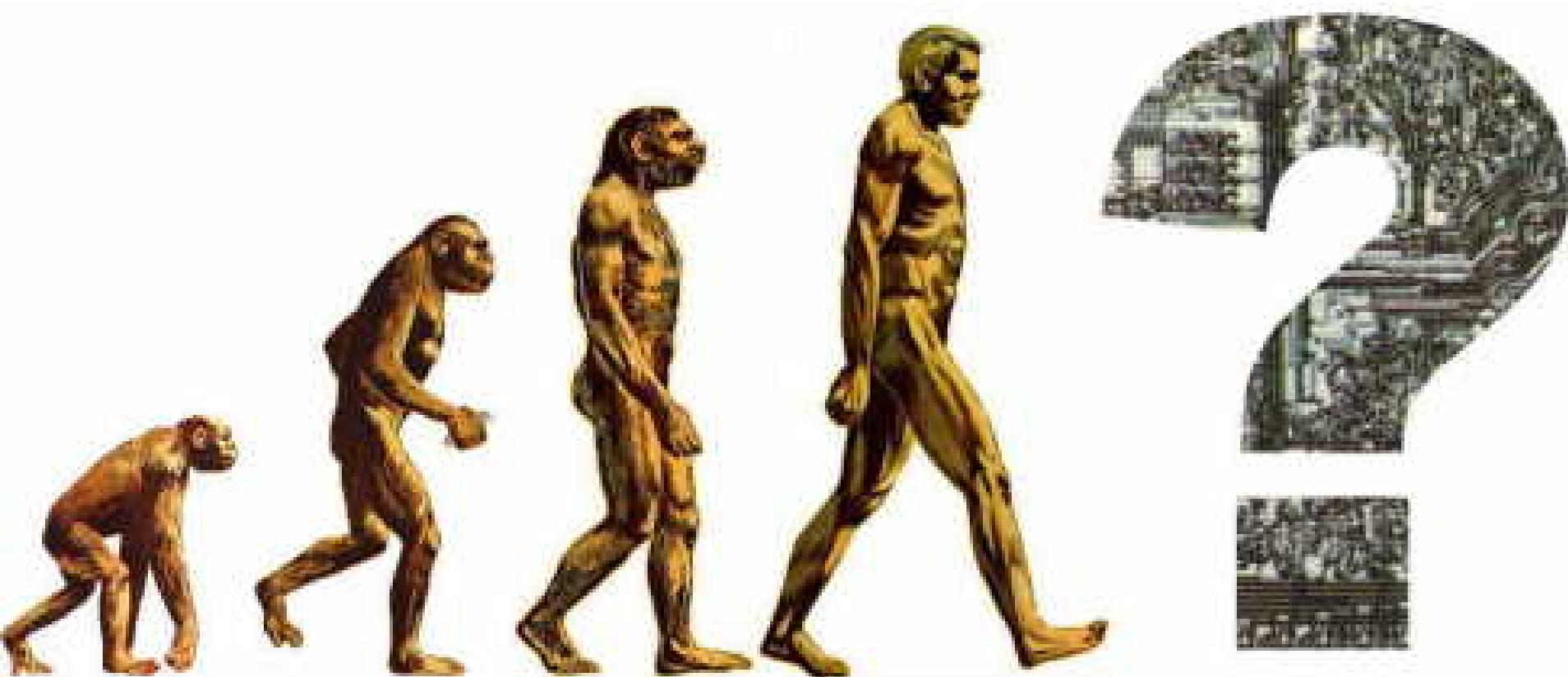


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Transhumanism

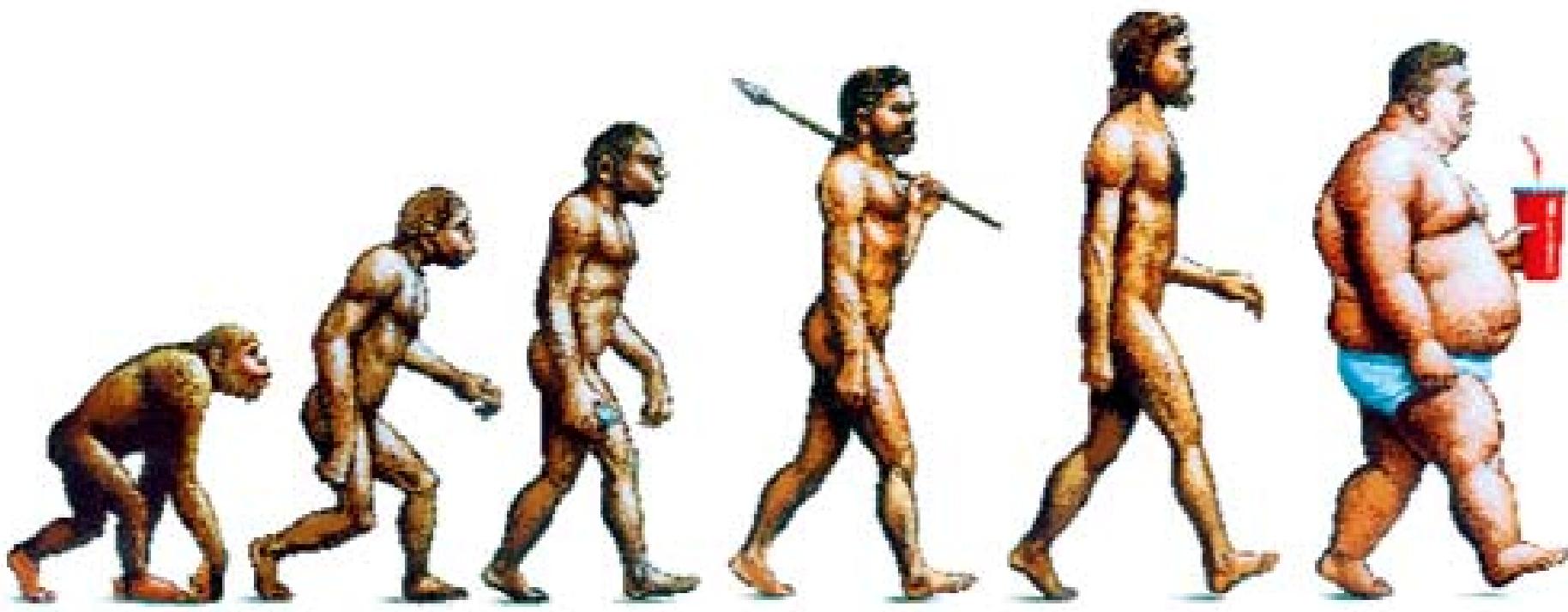
www.TransHumanism.org



Are humans also **trans-monkeys?**



Transhumanism, yes, but **carefully**





**Christopher
Reeve**

Superman?





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Stephen Hawking





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Michael J. Fox: Back to the Future



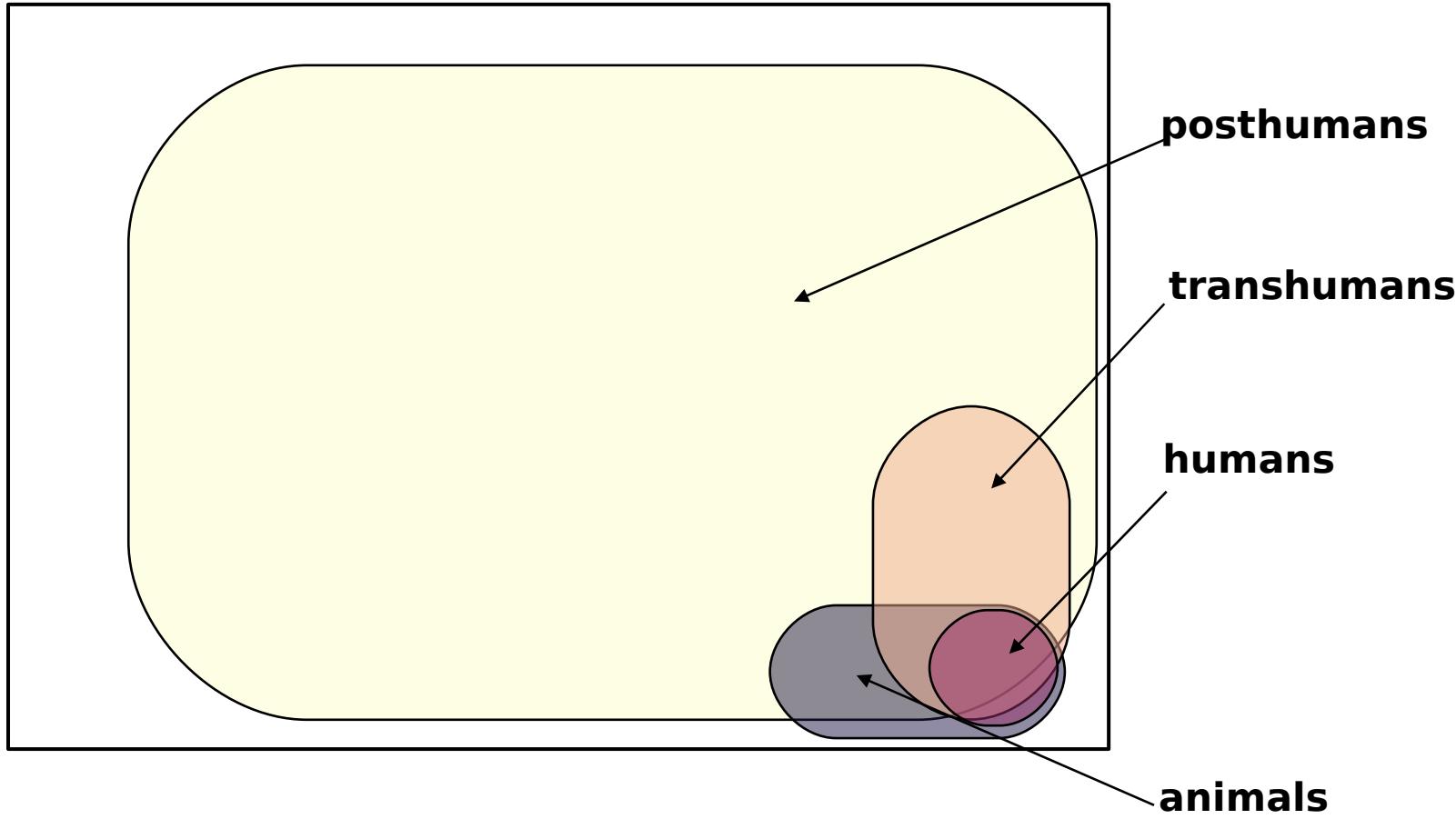


Ronald Reagan: Alzheimer's





Virus, bacteria, plants, animals, humans, **transhumans and posthumans**

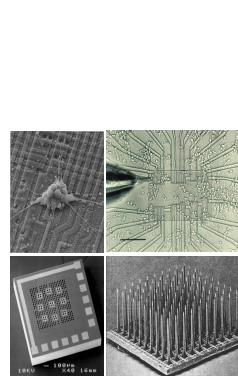




More and more human modifications

Hardware

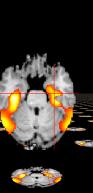
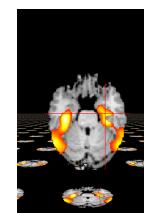
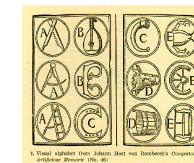
Internal



External

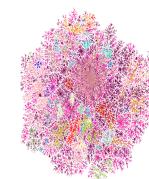
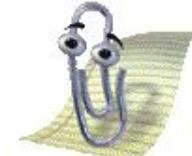


Software



$$\int \frac{dx}{x^3(ax+b)^3} = \frac{a^4x^2}{2b^5(ax+b)^2} - \frac{4a^3x}{b^5(ax+b)} - \frac{(ax+b)^2}{2b^5x^2} - \frac{6a^2}{b^5} \ln\left(\frac{ax+b}{x}\right)$$

Google™





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Space: The final frontier?



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SpaceShipOne: Virgin Galactic in 2008





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The brain:
The final frontier!





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Towards immortality

www.mprize.org

www.lmmInst.org

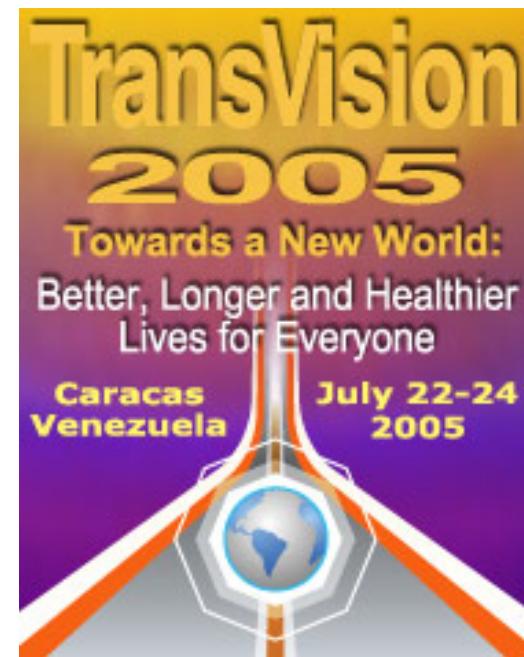
Are there immortal cells?



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TransVision 2005
Caracas, Venezuela
July 22-24, 2005
Towards a New World
www.TransHumanism.org



TransVision 2005
Towards a New World:
Better, Longer and Healthier Lives for Everyone

Caracas
Venezuela
July 22-24
2005

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¡Muchas gracias!
Jose@Cordeiro.org