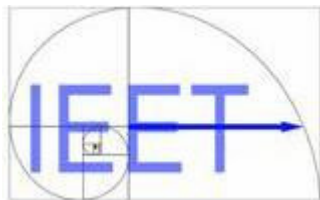# Tecnologia y Transhumanidad

Giulio Prisco

Madrid, 21 de Octubre, 2005

Transhumanismo: la idea más peligrosa

Francis Fukuyama, Foreign Policy, Sep/Oct 2004

Desde hace varias décadas, en el mundo desarrollado ha ido creciendo un extraño movimiento de liberación. Sus seguidores apuntan mucho más alto que los activistas de los derechos civiles, de las mujeres o de los homosexuales. Lo que quieren es nada más y nada menos que liberar a la raza humana de sus limitaciones biológicas. Según los transhumanistas, los seres humanos deben arrebatar su destino biológico al ciego proceso evolutivo de la variación aleatoria y la adaptación, para pasar a la siguiente fase como especie.

TransVision 2005 - Caracas

SI SE OPONE LA NATURALEZA LUCHAREMOS CONTRA ELLA Y LA HAREMOS QUE NOS OBEDEZCA

SIMON BOLIVAR

Mejora de la especie humana

INSTITUTO DE LA INGENIERIA DE ESPAÑA

1905·2005

iie iiE
1 CENTENARIO

Congreso soberanía tecnológica de Europa

Madrid 5, 6 y 7 de Octubre de 2005

Telefónica

E endesa

- Al otro lado del Atlántico se acepta como posible y deseable la mejora de la especie humana con todos los desafíos que ello implica. En Europa el rediseño de la especie es contemplado con más recelos y los horizontes tecnológicos asumidos son más lineales.
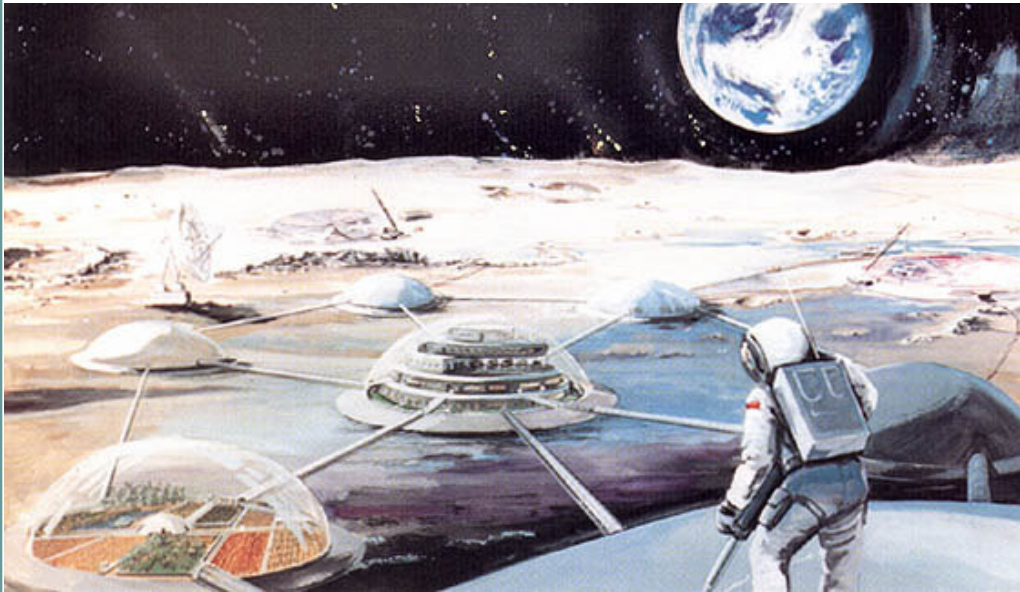
Mejora de la especie humana

Predicting the Future

What is Transhumanism?

- **The study** of the ramifications, promises and potential dangers of the use of science and technology to overcome fundamental human limitations.

- **An intellectual and cultural movement** that affirms the possibility and desirability of fundamentally altering the human condition through applied reason, especially by using technology to eliminate aging and greatly enhance human intellectual, physical, and psychological capacities.

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Roots in Humanism

- Outgrowth of 18th century rationalism and skepticism

- Websters of Humanism: "a philosophy that asserts the dignity and worth of man and his capacity for self-realization through reason, and that often rejects supernaturalism"

- Corliss Lamont: Humanism is "a naturalistic philosophy that rejects all supernaturalism and relies primarily upon reason and science, democracy and human compassion."

- Transhumanists are humanists who emphasize what we have the potential to become. Not only can we use rational means to improve the human condition and the external world; we can also use them to improve ourselves, and eventually move beyond what most would describe as human. Transhumanists reject the idea that human beings should refrain from "playing God."
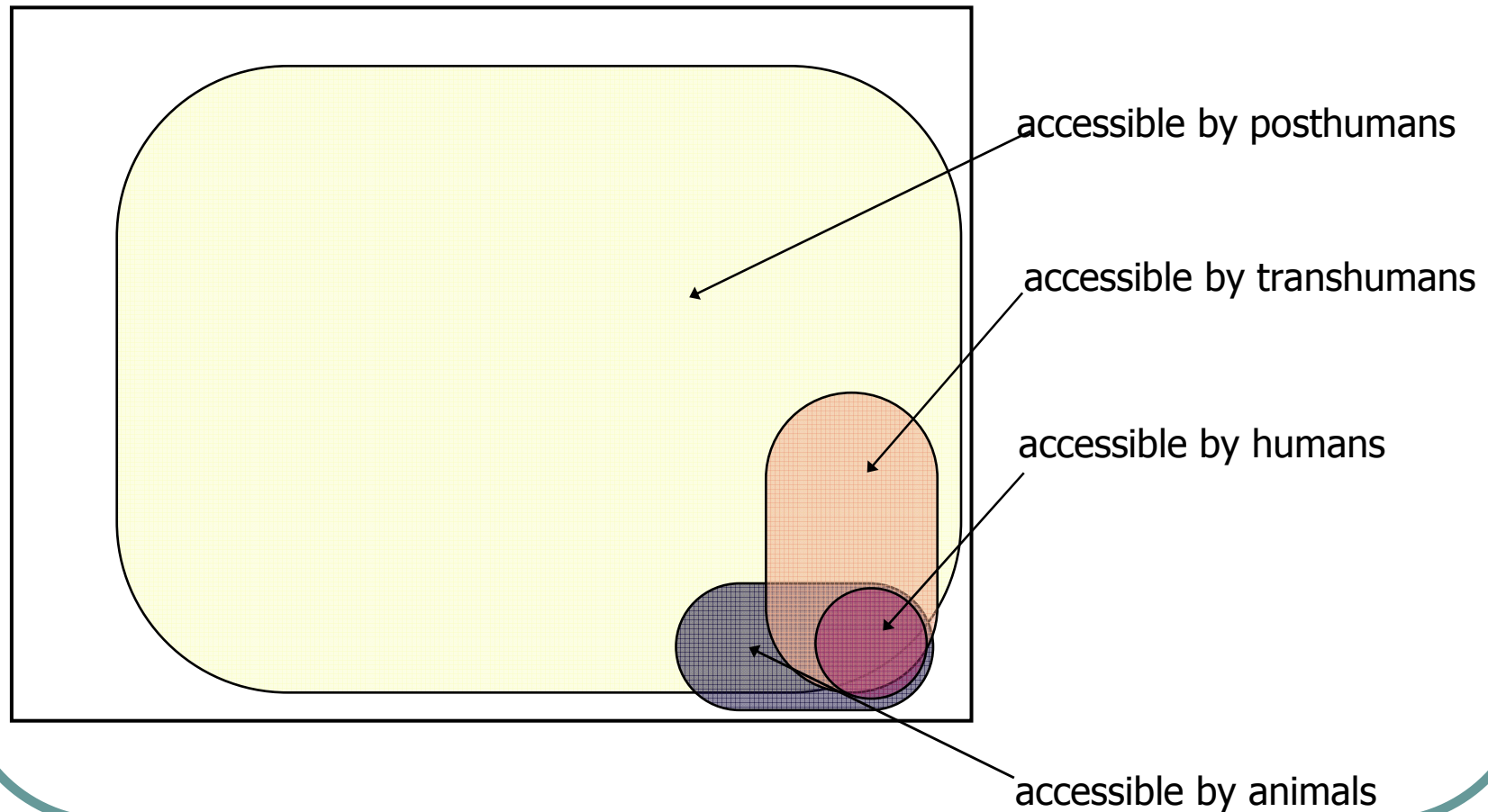
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Transhumans and Posthumans

- **What is a transhuman?**
- FM-2030. 1989. *Are You a Transhuman?*
- - a 'transitional human', a human taking the first steps towards becoming posthuman.

- **What is a posthuman?**
- A posthuman is a human descendant who has been augmented to such a degree as to be no longer a human. Many transhumanists want to become posthuman.
- As a posthuman,
  - You would be smarter than any human genius
  - Your body (if you had a body) would not be susceptible to disease and would not deteriorate with age, giving you indefinite youth and vigor.
  - You would have a greatly expanded capacity to feel emotions and to experience pleasure, love and artistic beauty.
  - You would not need to feel tired, bored or irritated about petty things.

Possible Modes of Being

accessible by posthumans

accessible by transhumans

accessible by humans

accessible by animals

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Early Transhumanists

- HG Wells – addressed the future evolution of human race

- JBS Haldane, "Daedalus: Science and the Future", 1923.

- JD Bernal, "The World, the Flesh and the Devil", 1929.

- Olaf Stapledon's 1931 *Last and First Men*

- Julian Huxley, "Transhumanism", 1957 - "the human species can, if it wishes, transcend itself."

- "FM-2030" (FM Esfandiary)

  - *Up-Wingers, Telespheres* and *Optimism One* (1973)

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Goal of Transhumanism

- A society that allows individuals to choose to use technology to live
  - Longer
  - Happier
  - Smarter
  - With more control over their lives
- A transhuman democracy where humans and posthumans can peacefully coexist

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What is health?

- IF:
  - "Disease is a deviation from a desired norm"

- THEN:
  - Age is a disease
  - Death is a disease
  - Stupidity is a disease

Transhumanist values

- Nothing wrong about "tampering with nature"; the idea of *hubris* rejected
- Individual choice in the use of enhancement technologies; morphological freedom
- Peace, international cooperation, anti-proliferation of WMDs
- Improving understanding (research and public debate; critical thinking; open-mindedness; scientific progress; open discussion of the future)
- Getting smarter (individually; collectively; develop machine intelligence)
- Willingness to reexamine our assumptions as we go along
- Pragmatism; engineering and entrepreneur-spirit; "can-do" attitude
- Diversity (species, race, religious creed, sexual orientation, life style, etc.)
- Caring about the well-being of all sentience
- Saving lives (life extension, anti-aging research, and cryonics)

What Transhumanism is Not

Transhumanism is

- ## Not racial eugenics
  - Transhumanist organizations are categorically opposed to pseudoscience, racism and authoritarianism

- ## Not a religious movement or cult
  - Most transhumanists are non-theistic, but transhumanism is compatible with various forms of humanistic religious belief

- ## Not a political movement
  - Transhumanists range across the entire spectrum of political views

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Emergent Technologies

Technologies that will radically change human life:

- Psychopharmacology
- Genetic engineering
- Nanotechnology
- Artificial intelligence
- Cognitive science
- The convergence of all these

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NBIC (Nano-Bio-Info-Cogno)

- Enhancing human performance through the converging sciences of:
  - Nanotechnology
  - Biotechnology
  - Information Technology
  - Cognitive Sciences

- Conferences and government funding programs
- US (NSF)
- Europe (EC)

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Psychopharmacology

- Transhumanists advocate "cognitive liberty," including freedom of thought and the right to control one's own brain
- Smart drugs
- Paradise engineering and Pearce's *Hedonistic Imperative*

Genetic Engineering

- Corrective somatic engineering
- Genetic enhancement
- Germline engineering
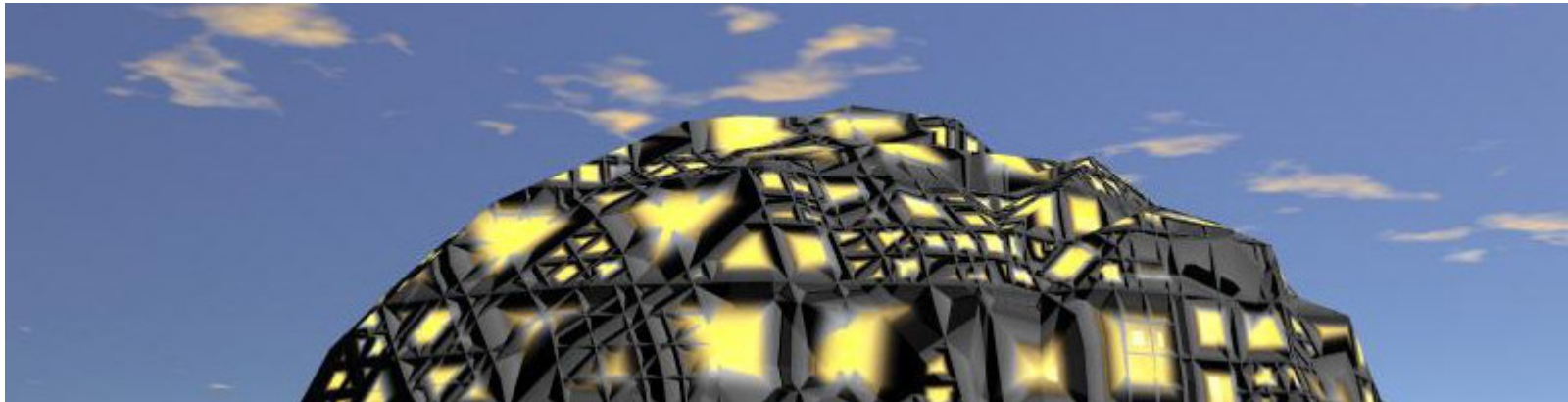- Greg Stock's 2002 *Redesigning Humans*

Bases

DNA Strand
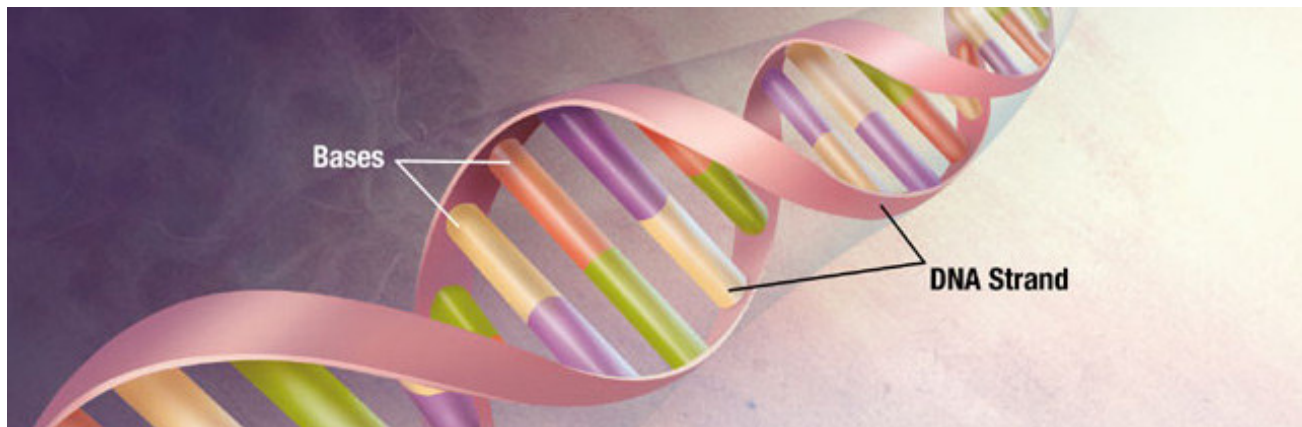
Nanotechnology

- Dramatic progress in recent years
- Nanodevices and nanorobots
- Universal assembler
- Nanotech in the body, supplementing immune system
- Nanotech in the brain
- Foresight Institute
  - http://foresight.org/
- CRNano
  - http://crnano.org/
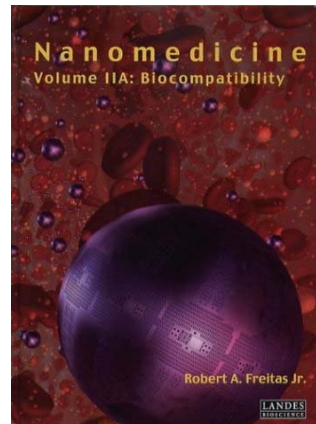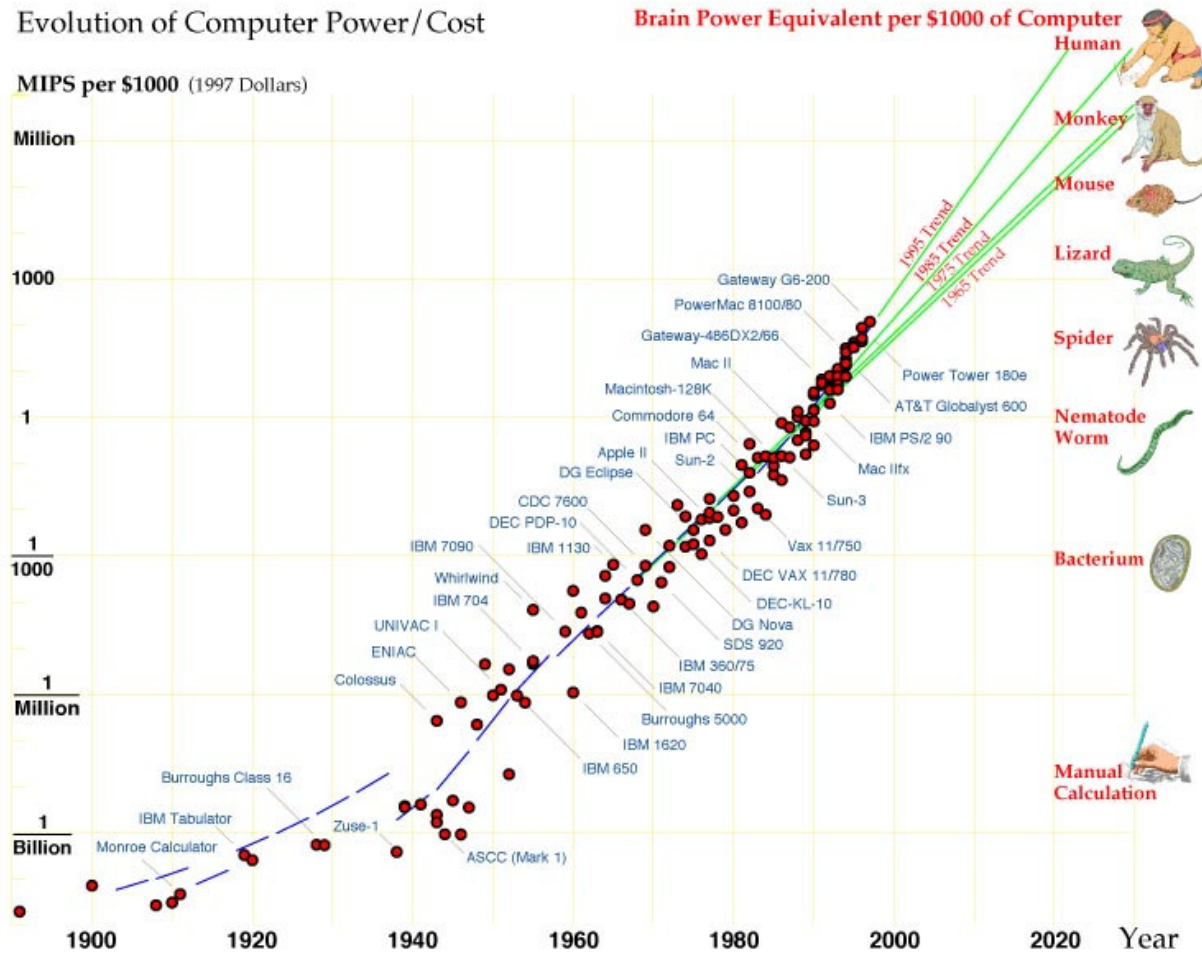
AI & Superintelligence

- Moore's Law
- First human-level computer by 2020
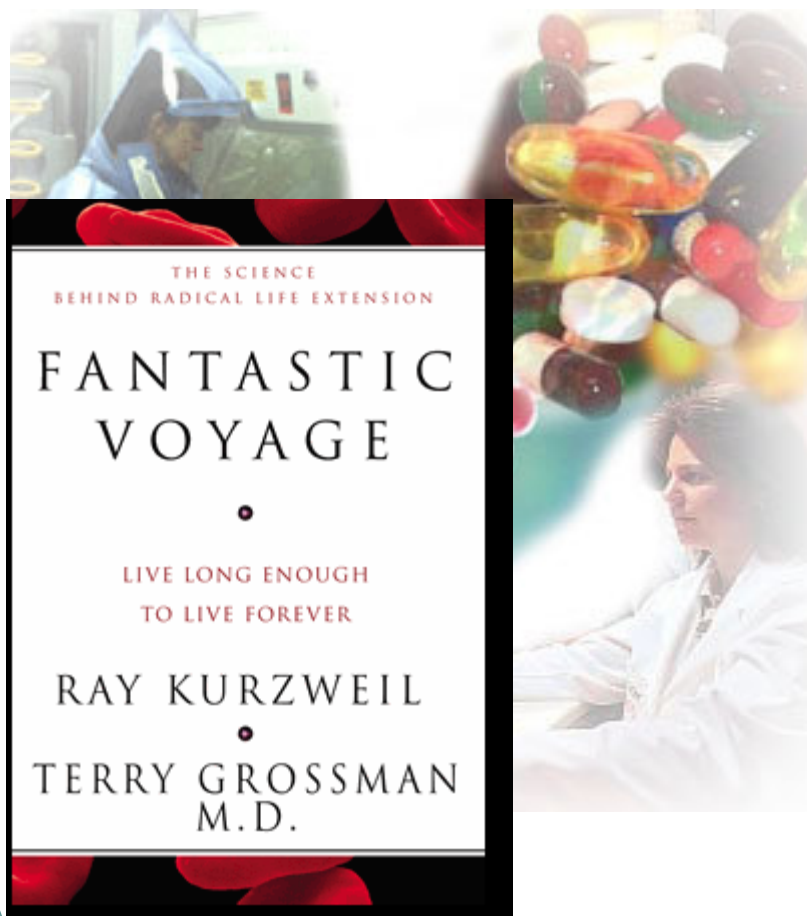- Ubiquitous computers with human-brain-level calculating power by 2040

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Evolution of Computing Power

Evolution of Computer Power/Cost

Brain Power Equivalent per $1000 of Computer

MIPS per $1000 (1997 Dollars)

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Life Extension

THE SCIENCE
BEHIND RADICAL LIFE EXTENSION

FANTASTIC
VOYAGE

LIVE LONG ENOUGH
TO LIVE FOREVER

RAY KURZWEIL

TERRY GROSSMAN
M.D.

- Radical life extension

- Biologic/cybernetic immortality

- Live long enough to live forever

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Cryonics

- Robert Ettinger, *The Prospect of Immortality*, 1964.
- Alcor and Cryonics Institute
- Neuro vs. whole-body options
- Nanotechnology will likely permit the repair of ice-damaged brains
- It's an experiment:
  - the experimental group has a chance of resurrection, and the control has no chance

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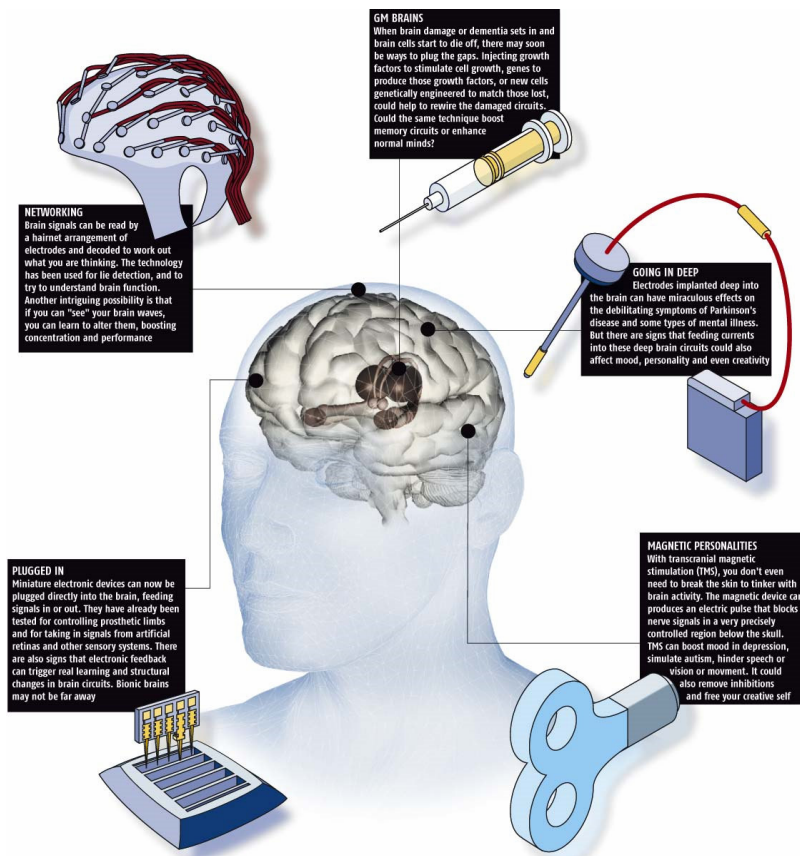
Neurotechnology

- Neurotechnology is the set of tools that influence the human central nervous system, especially the brain, to achieve a desired effect. The Economist defines neurotech as any "technology that makes it possible to manipulate the brain."

Mind Machine Interfacing

- First baby steps
- Controlling cursor on computer screen using thought
- Cyberkinetics clinical trials

Mind Machine Interfacing

- First baby steps
- Controlling cursor on computer screen using thought
- Cyberkinetics clinical trials

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Mind Machine Interfacing

- Future of telecoms
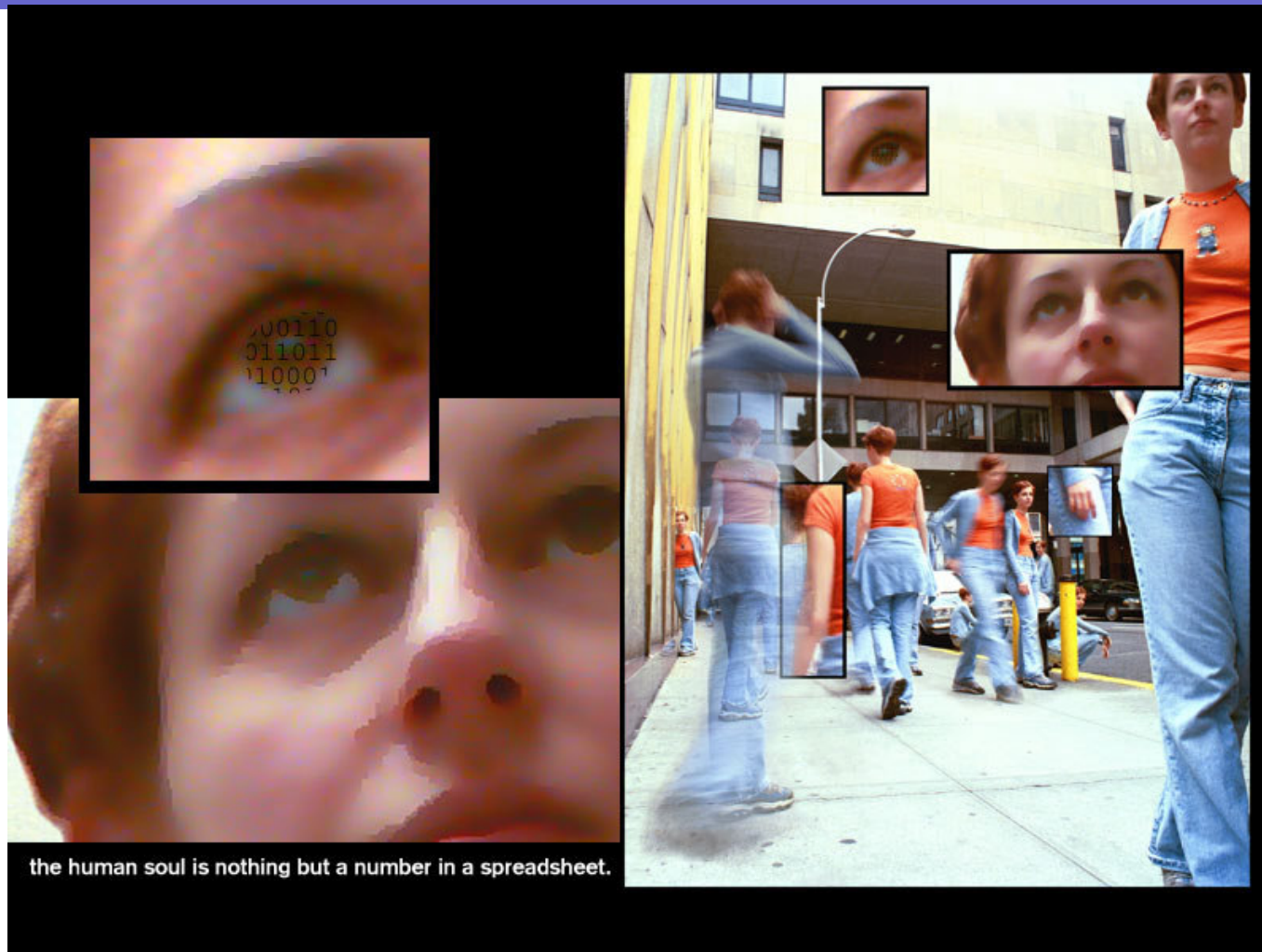- Brains linked to the global Internet

Uploading

- Silicon-neural interfaces
- Brain prostheses
- Brain imaging
- Reading the information in the brain
- Backing up human consciousness for uploading
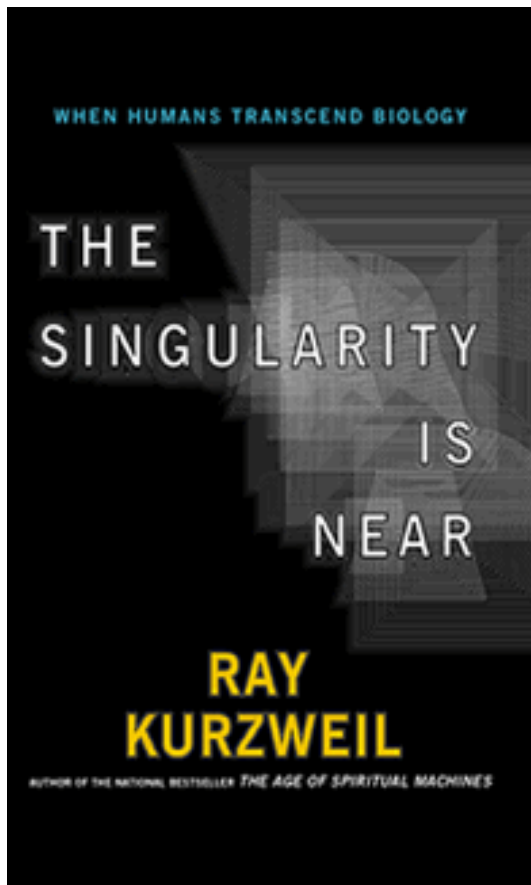- Mind Uploading Research Group
  - http://minduploading.org/

Uploading

the human soul is nothing but a number in a spreadsheet.

The Singularity

WHEN HUMANS TRANSCEND BIOLOGY

THE SINGULARITY IS NEAR

RAY KURZWEIL

AUTHOR OF THE NATIONAL BESTSELLER *THE AGE OF SPIRITUAL MACHINES*

Singularity: technological progress and societal change accelerate due to the advent of superhuman intelligence, changing our environment beyond the ability of pre-Singularity humans to comprehend or reliably predict.

Exponentially accelerating change in technology and society

Kurzweil: Singularity by 2045

The Singularity

- **Teilhard de Chardin 1959 *The Future of Man***
  - Integration of noosphere leading to Omega Point
- **Hans Moravec and Marvin Minsky**
- **Vernor Vinge**
  - 1993 "The Coming Technological Singularity: How to Survive in the Post-Human Era"
- **Ray Kurzweil   http://kurzweilai.net**
  - 2005 "The Singularity is Near"
- **Charles Stross   http://antipope.org**
  - 2005 "Accelerando"

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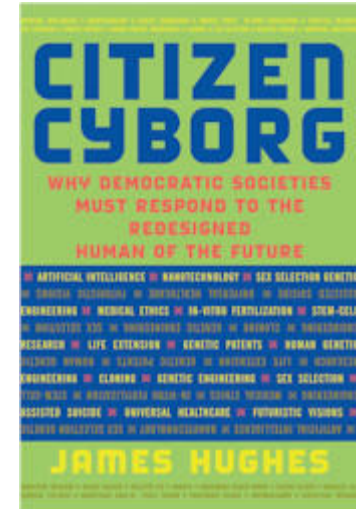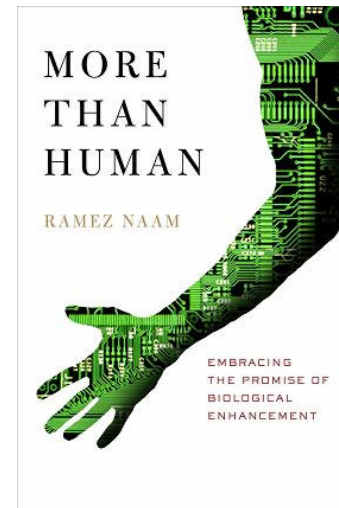# The Singularity
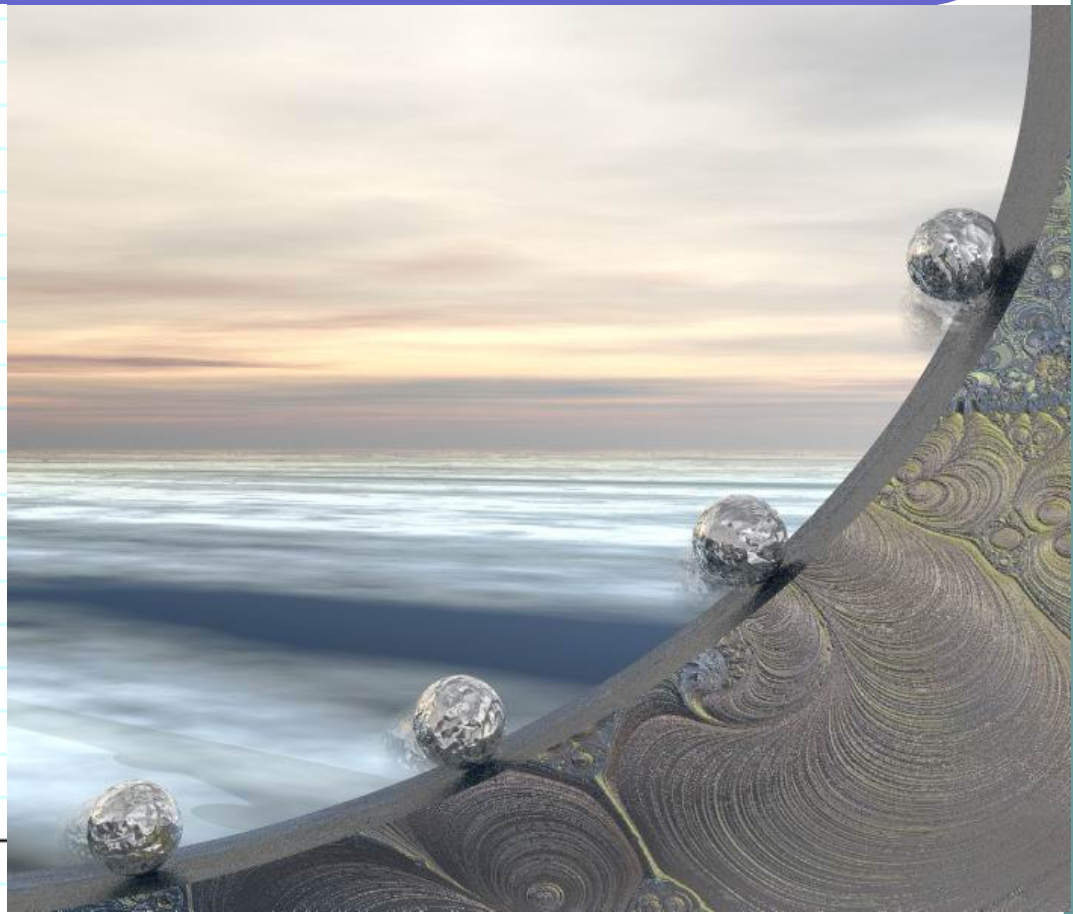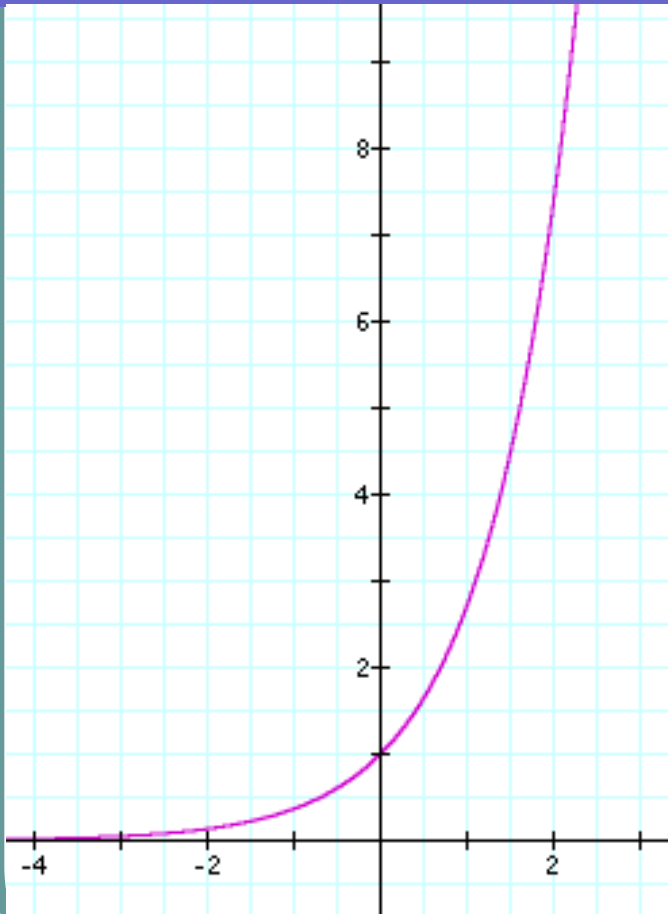
Is the universe a simulation?
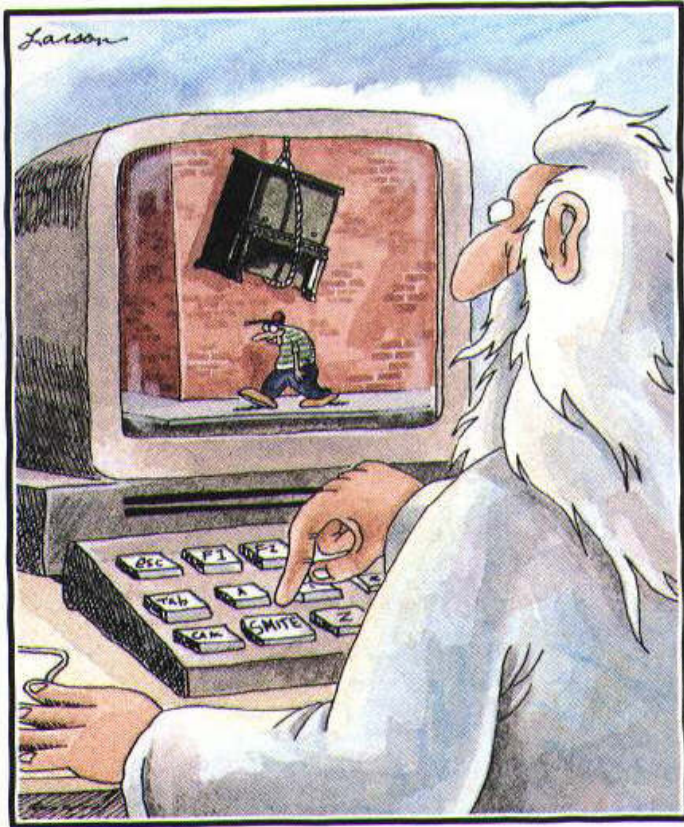
God at His computer

The Omega Point

- Destiny of intelligent life in the Universe
- Teilhard de Chardin 1959 *The Future of Man -* Integration of noosphere leading to Omega Point

21st Century BioPolitics

- **Transhumanists versus bioLuddites**

- **BioLuddites:**

  - Religious Right

  - Deep Ecologists

  - Left-wing Critics of Biotech

Central Biopolitical Disputes

Transhumanists	BioLuddites
Personhood	Human-Racism
Humanism	Sacred taboos
Individual liberty	Bans
Risks are manageable	Tech should be banned
Trust parents	Assume parents are bad

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20th Century Politics

Progressives

Economic Politics

Conservatives

Populists

Social Democrats

New Right

Libertarians

Conservatives

Progressives

Cultural Politics

21ˢᵗ Century Politics

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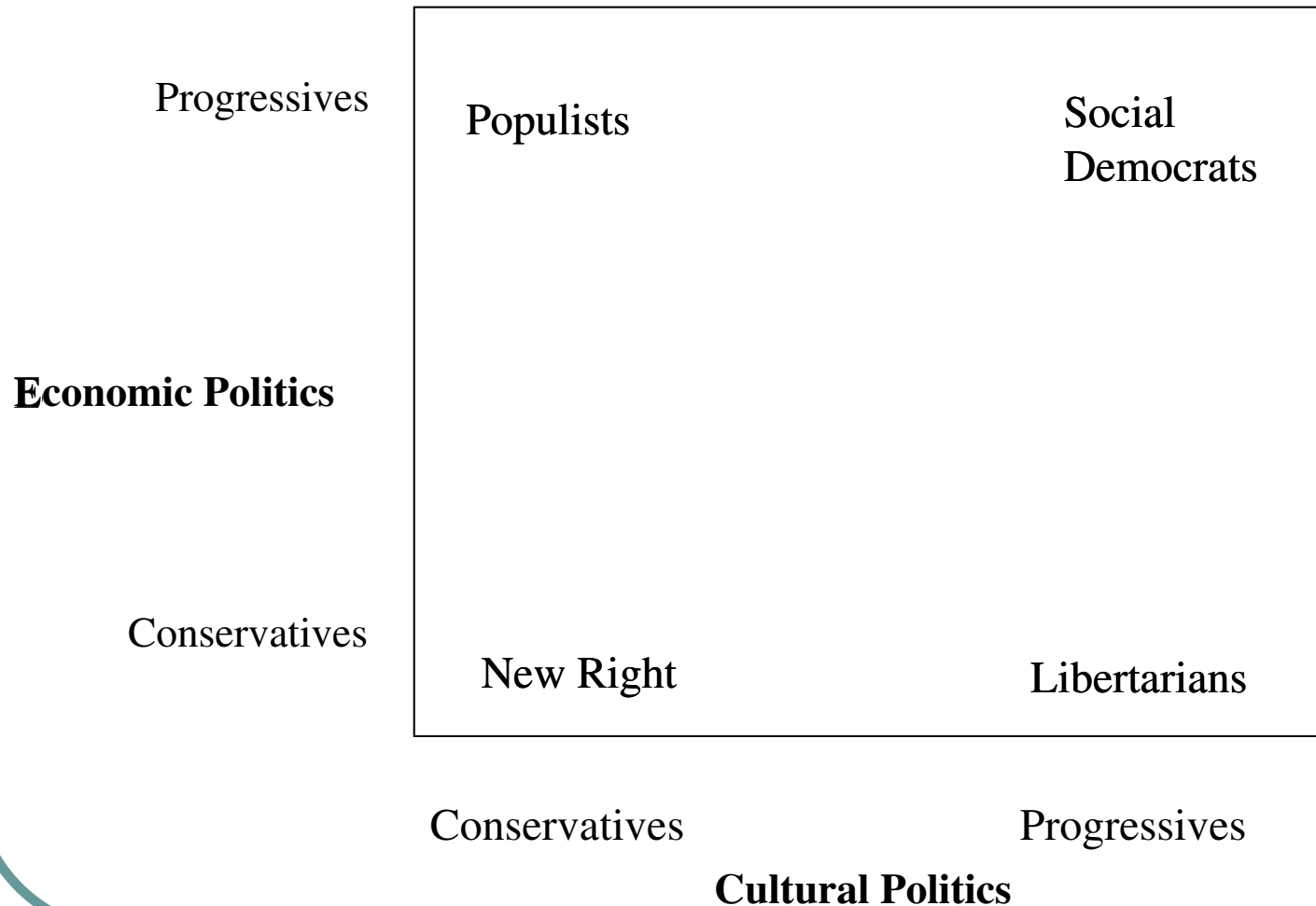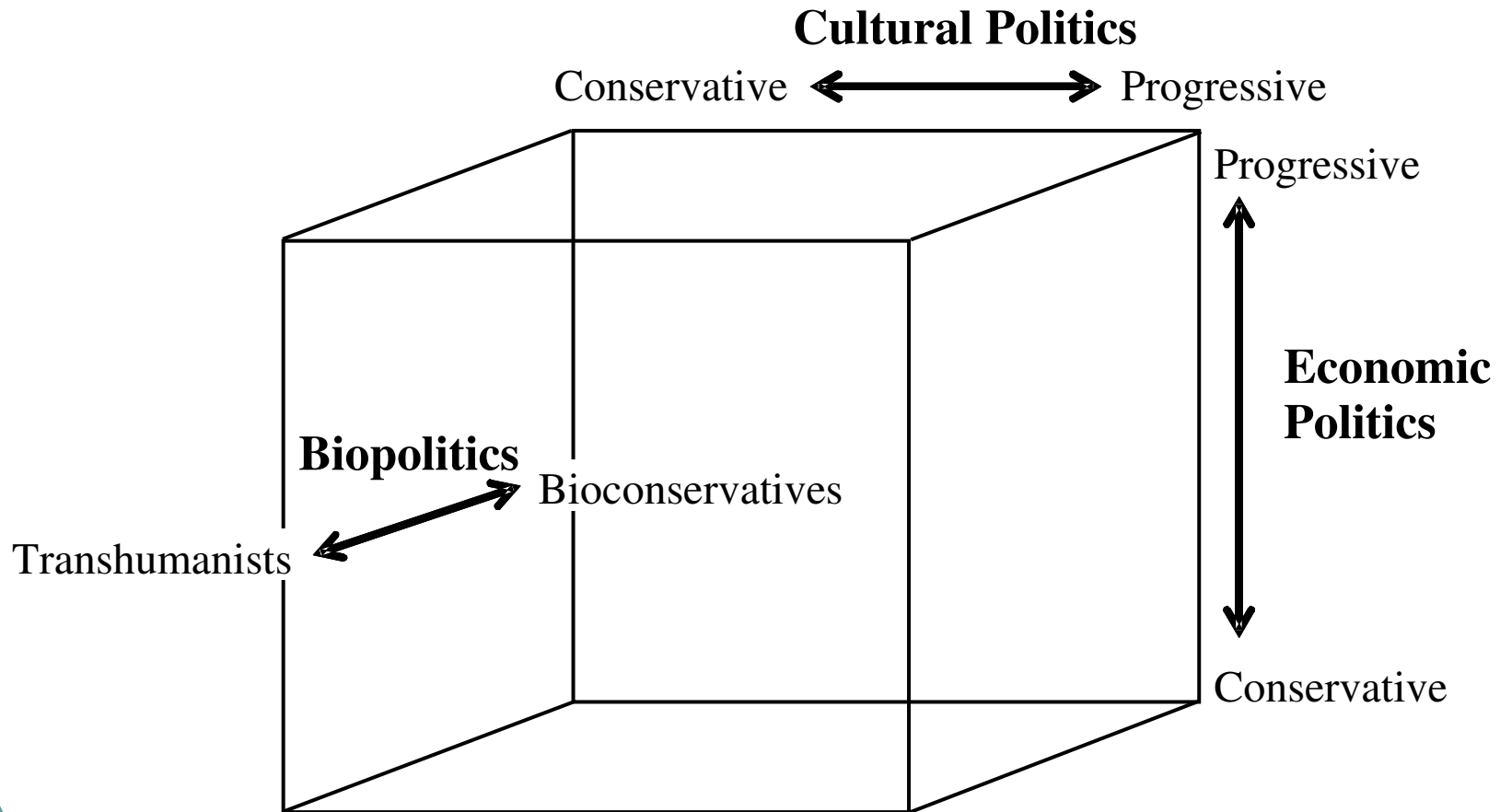
Biopolitical Coalitions

Transhumanist Coalition   BioCon Coalition

A- Democratic transhumanism
B- Libertarian transhumanism
C- Left bioconservatives
D- Right bioconservatives

Cultural Politics

Conservative ⟵⟶ Progressive

Progressive

C

A

Economic Politics

Biopolitics

BioLuddism

Transhumanism

D

Conservative

B

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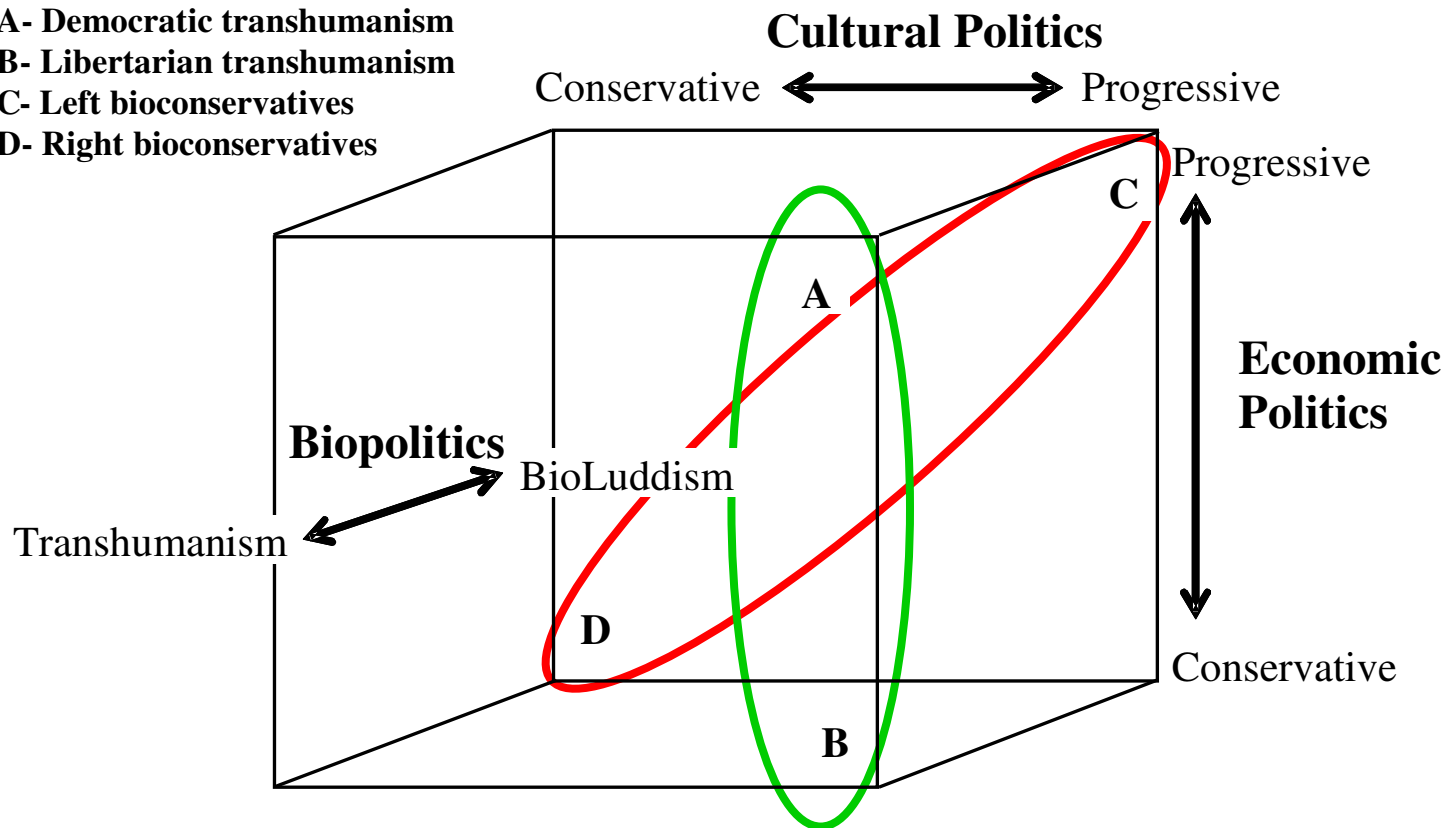
Extropy Institute

- http://www.extropy.org
- Max More
- Extropian Principles
- Extropy magazine
- Extropians lists
- Extro conferences

Extropian Principles 3.0

- **Perpetual Progress** -- Seeking more intelligence, wisdom, and effectiveness, an indefinite lifespan, and the removal of political, cultural, biological, and psychological limits to self-actualization and self-realization. Perpetually overcoming constraints on our progress and possibilities. Expanding into the universe and advancing without end.

- **Self-Transformation** -- Affirming continual moral, intellectual, and physical self-improvement, through critical and creative thinking, personal responsibility, and experimentation. Seeking biological and neurological augmentation along with emotional and psychological refinement.

- **Practical Optimism** -- Fueling action with positive expectations. Adopting a rational, action-based optimism, in place of both blind faith and stagnant pessimism.

- **Intelligent Technology** -- Applying science and technology creatively to transcend "natural" limits imposed by our biological heritage, culture, and environment. Seeing technology not as an end in itself but as an effective means towards the improvement of life.

Extropian Principles 3.0 cont.

- **Open Society** -- Supporting social orders that foster freedom of speech, freedom of action, and experimentation. Opposing authoritarian social control and favoring the rule of law and decentralization of power. Preferring bargaining over battling, and exchange over compulsion. Openness to improvement rather than a static utopia.

- **Self-Direction** -- Seeking independent thinking, individual freedom, personal responsibility, self-direction, self-esteem, and respect for others.

- **Rational Thinking** -- Favoring reason over blind faith and questioning over dogma. Remaining open to challenges to our beliefs and practices in pursuit of perpetual improvement. Welcoming criticism of our existing beliefs while being open to new ideas.

WORLD TRANSHUMANIST ASSOCIATION

World Transhumanist Association

- http://www.transhumanism.org
- Founded 1997 by Nick Bostrom
- Transhumanist Declaration
- WTA FAQ
- Transvision conferences
  - Transvision 2004 – Toronto
  - Transvision 2005 – Caracas
  - Transvision 2006 – Helsinki
- WTA discussion lists

WTA: Better than Well

The World Transhumanist Association is an international nonprofit membership organization which advocates the ethical use of technology to expand human capacities. We support the development of and access to new technologies that enable everyone to enjoy better minds, better bodies and better lives. In other words, we want people to be better than well.

Transhumanist Declaration

- (1) Humanity will be radically changed by technology in the future. We foresee the feasibility of redesigning the human condition, including such parameters as the inevitability of aging, limitations on human and artificial intellects, unchosen psychology, suffering, and our confinement to the planet earth.

- (2) Systematic research should be put into understanding these coming developments and their long-term consequences.

- (3) Transhumanists think that by being generally open and embracing of new technology we have a better chance of turning it to our advantage than if we try to ban or prohibit it.

- (4) Transhumanists advocate the moral right for those who so wish to use technology to extend their mental and physical (including reproductive) capacities and to improve their control over their own lives. We seek personal growth beyond our current biological limitations.

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Transhumanist Declaration cont.

- (5) In planning for the future, it is mandatory to take into account the prospect of dramatic progress in technological capabilities. It would be tragic if the potential benefits failed to materialize because of technophobia and unnecessary prohibitions. On the other hand, it would also be tragic if intelligent life went extinct because of some disaster or war involving advanced technologies.

- (6) We need to create forums where people can rationally debate what needs to be done, and a social order where responsible decisions can be implemented.

- (7) Transhumanism advocates the well-being of all sentience (whether in artificial intellects, humans, posthumans, or non-human animals) and encompasses many principles of modern humanism. Transhumanism does not support any particular party, politician or political platform.

WTA Programs

Global Health

Through our Global Health research program we intend to link with like-minded organizations working in global health and development policy to encourage the diffusion of emerging technologies in developing countries, and to systematically examine the problems of global equity and access to new technologies.

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WTA Programs

Relationships, Community and Technology

Through the Relationships, Community and Technology Program we seek to examine how technologies can support and improve the quality of relationships, families and

communities.

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WTA Programs

Consequences and Ethics of Emerging Technologies

Through the Consequences and Ethics of Emerging Technologies program we seek to catalog the emerging technologies we believe will extend human capacities and to create a database of their projected consequences.

WTA Programs

Self-Determination and Human Rights

Through the Self-Determination and Human Rights Program we seek to engage the human rights community, legal scholars, reproductive rights activists, the transgendered community and advocates of public health approaches to illicit drugs in a campaign to deepen and broaden the concept of human rights.

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WTA Programs

Longer, Better Lives

Twenty extra years of healthy life are just as valuable in someone's second century of life as in their first. Through the Longer, Better Lives Program we seek to make the case for longer healthier lives, addressing objections to life extension, from the alleged problem of overpopulation to the threat of ennui. We will be coordinating and seeking consultation with senior citizens groups and organizations of the disabled to help them challenge ageist and ableist attitudes that discourage the full utilization of health technology.

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WTA Programs

Visions of Utopia and Dystopia

Through the Visions of Utopia and Dystopia program we seek to collect images of posthumanity and non-human intelligence, positive, negative and neutral, and engage culture critics, artists, writers, and filmmakers in exploring the lessons to be derived from these cultural expressions.

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Transhumanist Speculative Fiction

- Sir Arthur C. Clarke
- Greg Egan
- Charles Stross
- Greg Bear
- David Brin
- Ken MacLeod
- Damien Broderick
- Rudy Rucker
- Vernor Vinge
- Linda Nagata
- Octavia Butler
- Kathleeen Ann Goonan
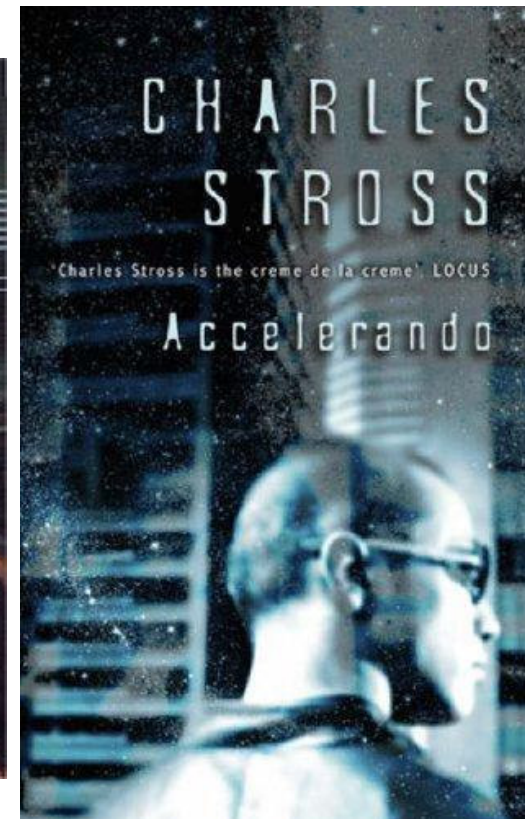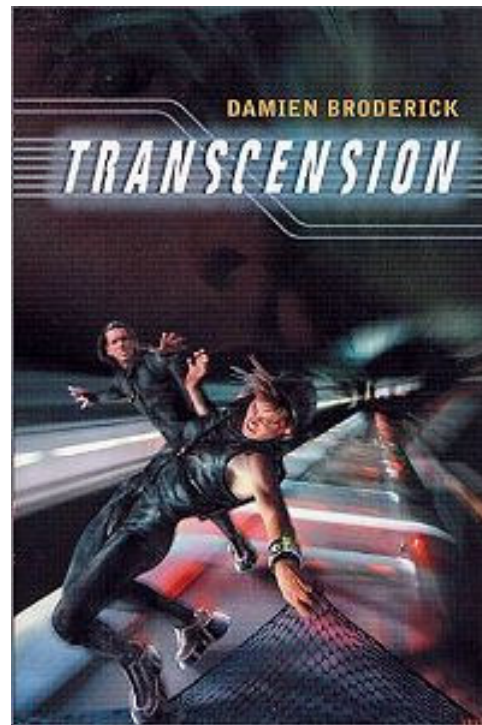
Taking Transhumanism Mainstream

- Think-tanks
- Sci/Tech, business and policy consulting
- Cultural, educational and political action groups
- Academic programs
- Press and media
- Mainstream impact

IEET
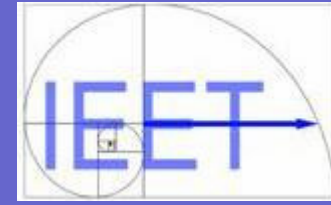
- ## Institute for Ethics and Emerging Technologies
  - Non-profit think-tank founded in 2004
  - http://ieet.org/
- By promoting and publicizing the work of thinkers who examine the social implications of scientific and technological advance, we seek to contribute to the understanding of the impact of emerging technologies on individuals and societies. We also want to help shape public policies that distribute the benefits and reduce the risks of technological advancement.

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Journal of Evolution and Technology

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The Journal of Evolution and Technology is a scholarly peer-reviewed journal, publishing academic-quality research since 1998. JET welcomes submissions on subject matters that many mainstream journals shun as too speculative, radical, or interdisciplinary on all issues relating to the future prospects of the human species and its descendants. Since 2004 the JET is managed by the IEET.

FutureTAG

"Transhumanist" consulting firm founded in 2004

http://futuretag.com

- The Future Technologies Advisory Group is a consulting and media company focused on promoting awareness and understanding of radical scientific advances and emerging technologies, as well as evaluating their impact on individuals, businesses and societies.Our target markets are the media, and policy makers in government and industry. We develop science information products aimed at a wide audience and suitable for publishing, broadcasting and the web, and more detailed information and consulting products aimed at specific clients.

Betterhumans

Aiming to connect people to the future so that they can create it, Betterhumans is an editorial production company that's dedicated to having the best information, analysis and opinion on the impact of advancing science and technology. Betterhumans runs leading Website *Betterhumans.com,* connects advertisers with its *Betterhumans.com* audience, licenses editorial for syndication and republication and provides custom research and custom editorial services.

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Tendencias 21

Tendencias 21 es una publicación electrónica independiente que recoge los principales avances estratégicos en ciencia, tecnología, sociedad y cultura.

http://tendencias21.net/

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Critics of Transhumanism

- Aldous Huxley's *Brave New World*
- Religious conservatives opposed to hubris and "playing God"
- Defenders of "human nature"
  - Leon Kass, Francis Fukuyama
- Transhumanism: The Most Dangerous Idea (Fukuyama, 2004)

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Humanism vs. Sacred Limits

- Playing God: antibiotics, IVF, organ transplants?

- Human intervention will always end in disaster

- Nature is too complicated to ever understand

Transhumanism: The Most Dangerous Idea

Francis Fukuyama, Foreign Policy, September/October 2004

For the last several decades, a strange liberation movement has grown within the developed world. Its crusaders aim much higher than civil rights campaigners, feminists, or gayrights advocates. They want nothing less than to liberate the human race from its biological constraints. As "transhumanists" see it, humans must wrest their biological destiny from evolution's blind process of random variation and adaptation and move to the next stage as a species.

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The Risks of Doing Nothing

"We've considered every potential risk except the risks of avoiding all risks."

HARDIN