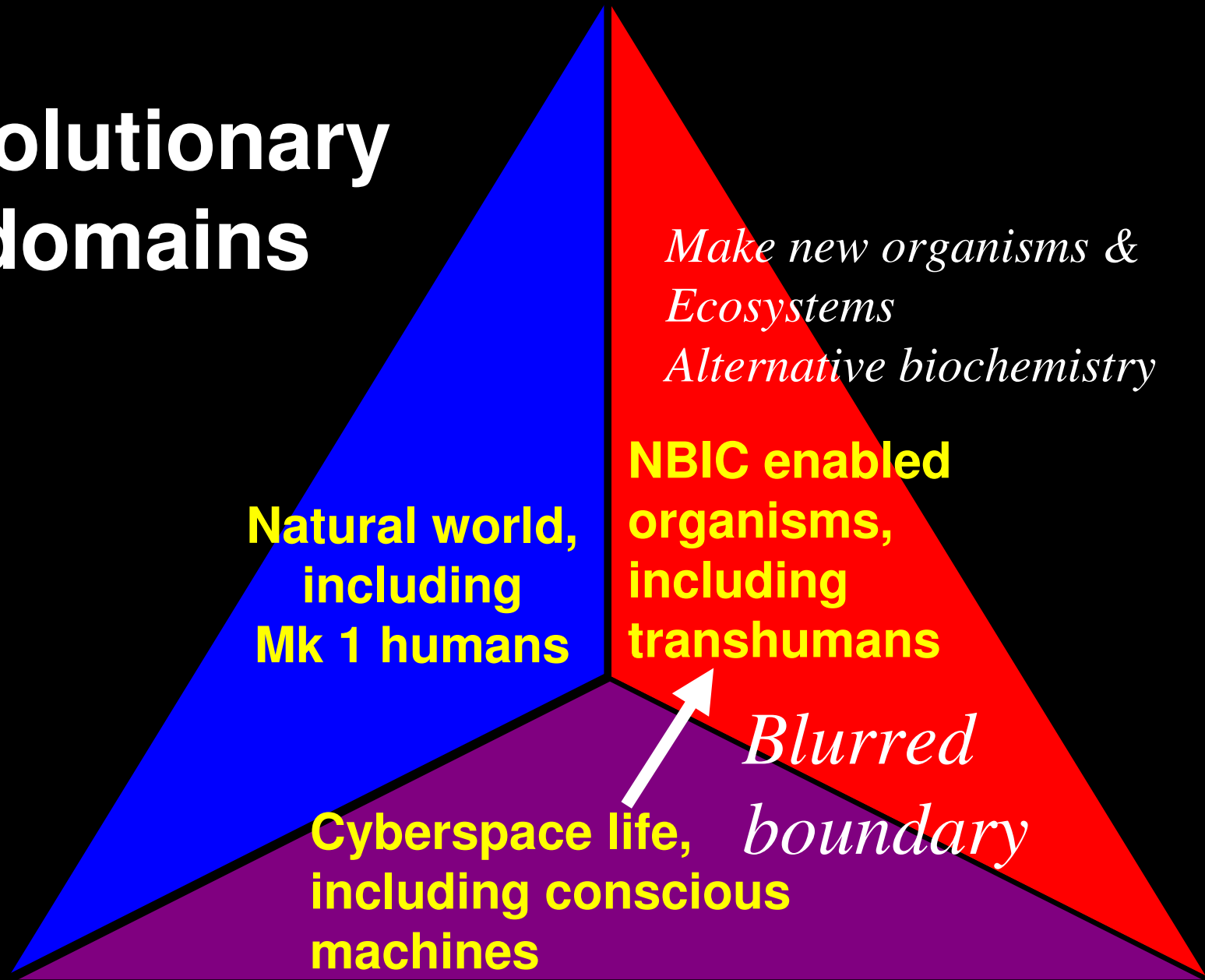




Ian Pearson

The future of life on earth

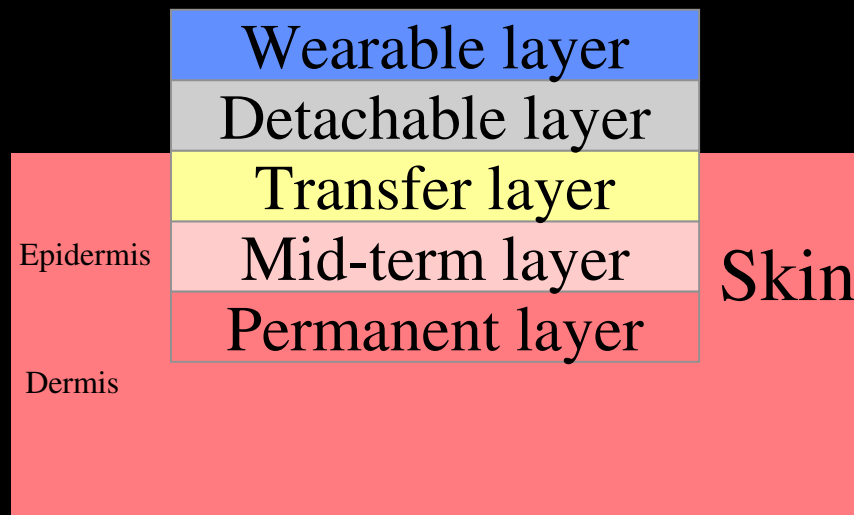
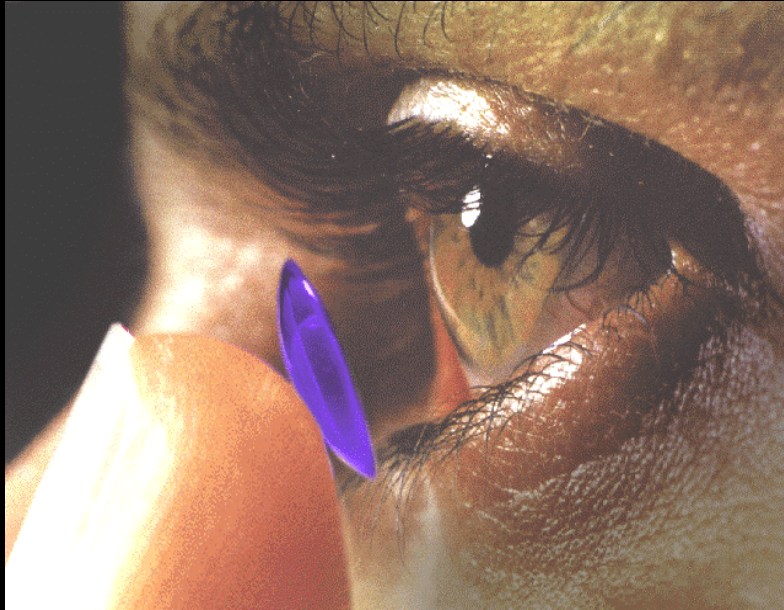
Evolutionary domains



Evolution toolkit - NBIC

- Synthetic biology
- Electronically enhance functionality
- Add cyberspace duality
- Blur boundaries between individuals
- Group life forms
- Modify genomes
- Machine intelligence
- Hybrid organic-electronic organisms

Active skin



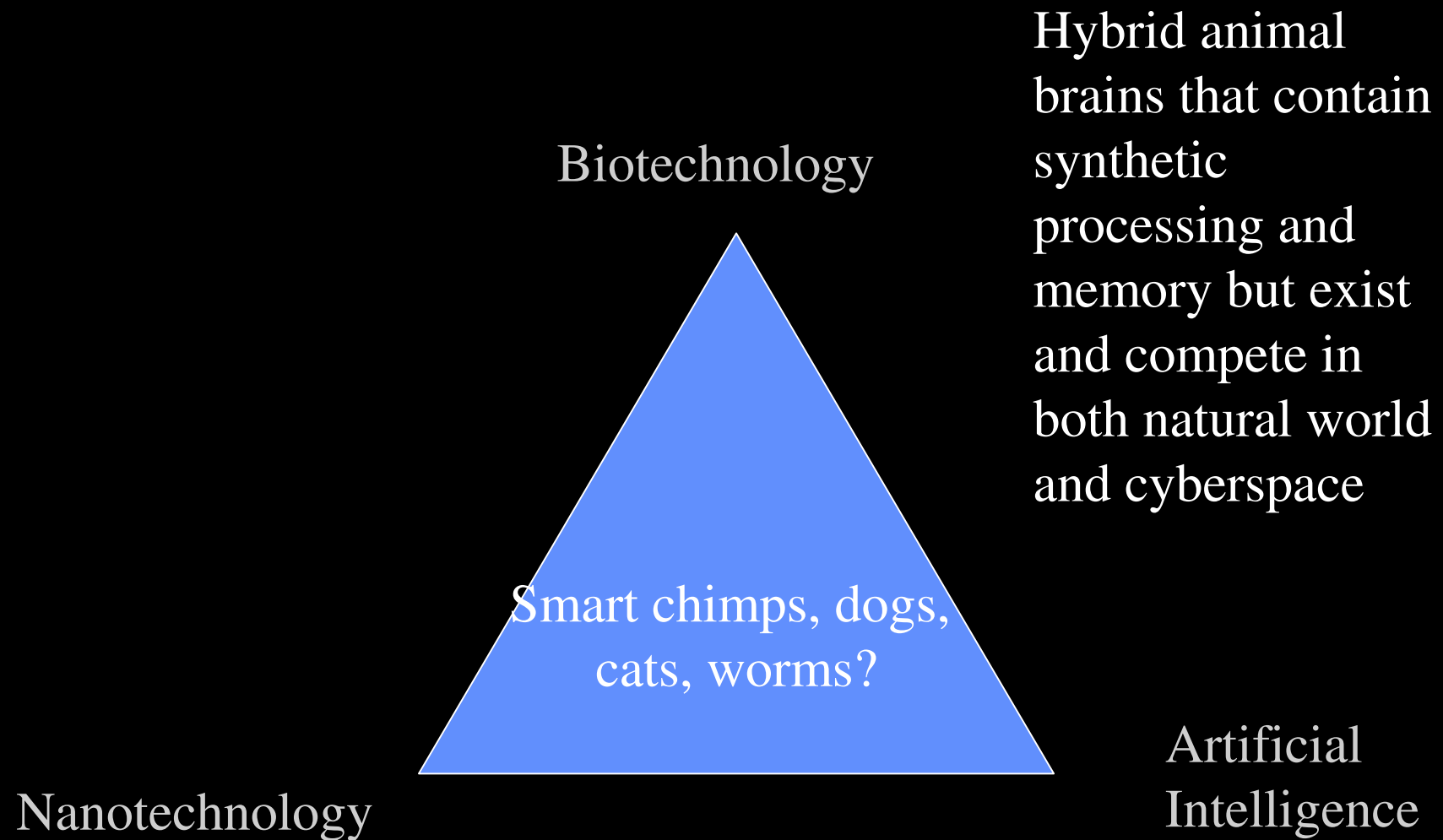
Virtual worlds

adding value to the real world



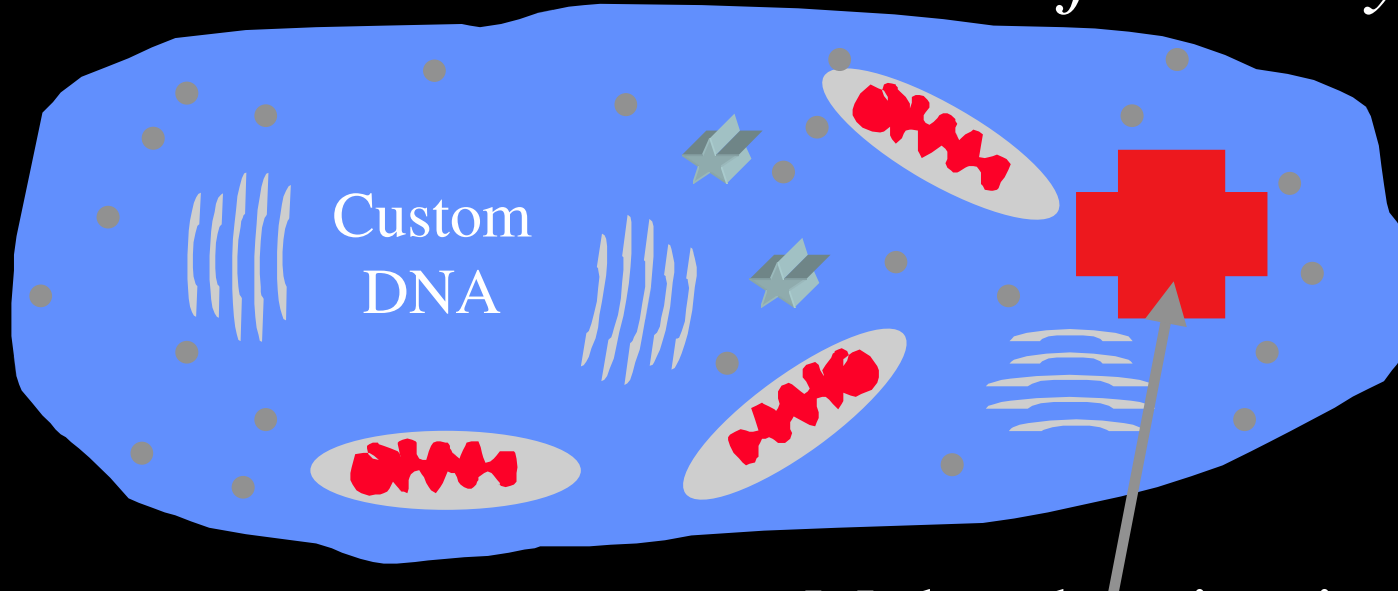
*Nervous system link
will give full sensory
experience*

Making other organisms smart



Smart bacteria

Transhumans will be obsolete before they arrive



Molecular circuit
assembled by cell

Bacteria linked together to make sophisticated self
organising circuits

Networked organisms

- Using active skin or cellular implants, we can connect directly to the nervous system or biological processes of any organism.
- Truly hybrid real/virtual organisms
- Animals could find mates via dating sites and satnav
- Can make collective organisms
- Global collective organisms could exist

Fetal customisation?

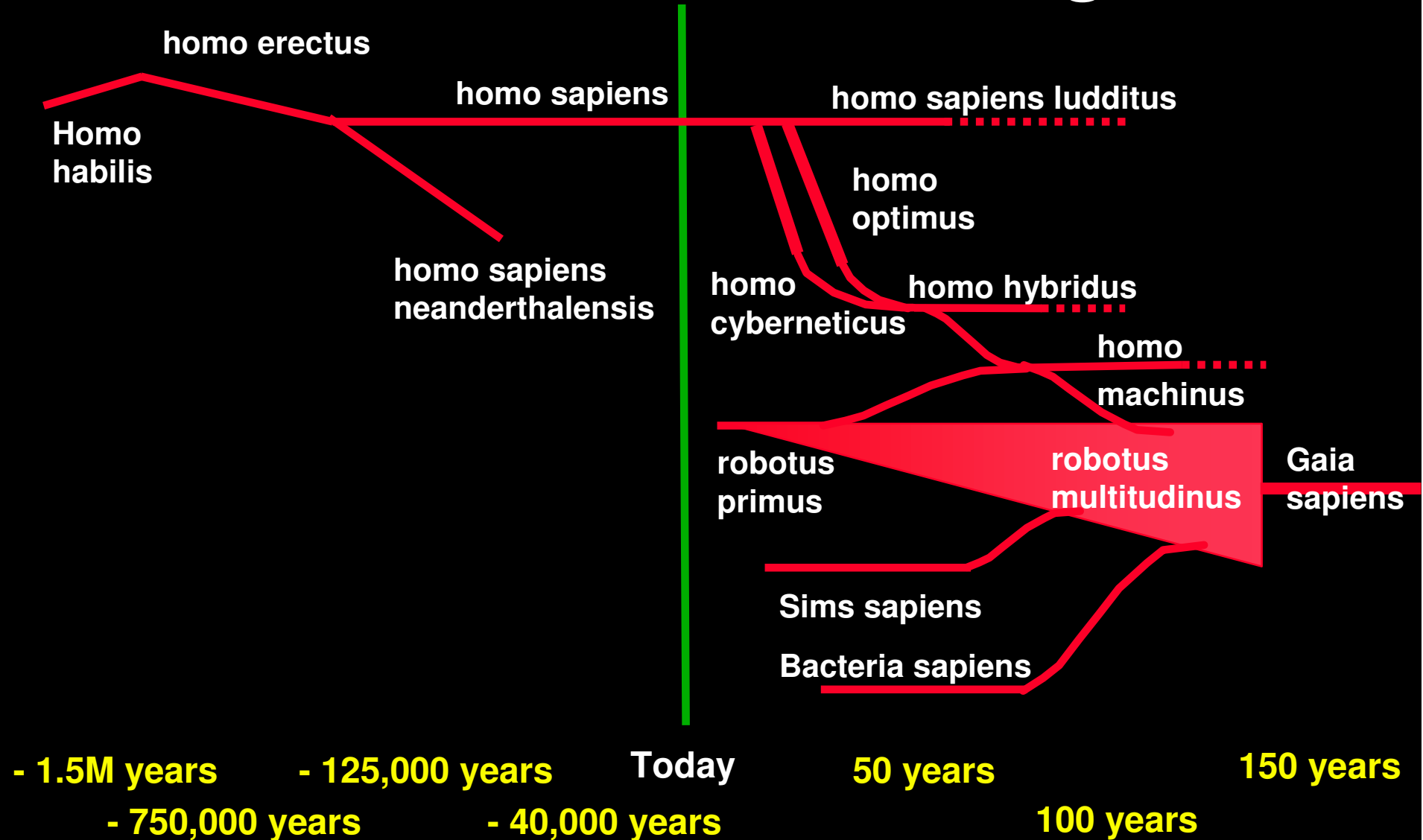


Parents can now select embryos without certain genes. How long will it be before parents are considered irresponsible if they don't give their children the best possible genetic start in life?

Linking minds into cyberspace

- We already have basic thought recognition today
- Billions going on programmes to enhance human performance by linking our brains to electronics
- We will have vastly superhuman machines that can support emulation of many human minds at once
- We will eventually have genetically optimised hybrid human-machines with minds that run partly in the brain and partly on computers – homo hybridus

Human-machine Convergence



The Medium, 2075-2200



A global environment linking together all the minds of people and sentient machines in a global consciousness

Shared consciousness & awareness

Shared personalities?

Link nervous systems together

Fuzzy boundaries between people

Personality modification

Telepathic linking via bionic implants

Shared dreams

Shared bodies

Hacking into someone else's body to experience their experiences

Mental hijacking, Big Brother, oppression

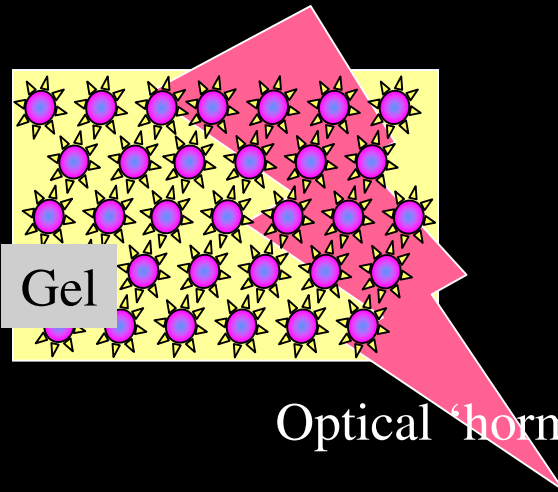
The death of death - Under 35s may live forever

- Networked back-up
- Make endless replicas of yourself
- Death can only be partial
- Upload into android
- Emigration into cyberspace to retire

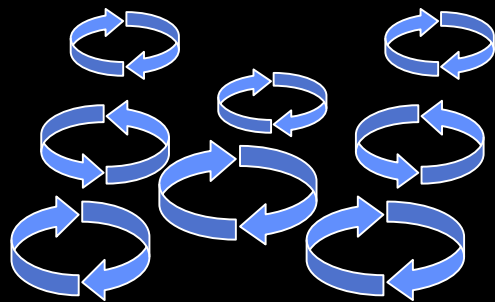


Machine intelligence

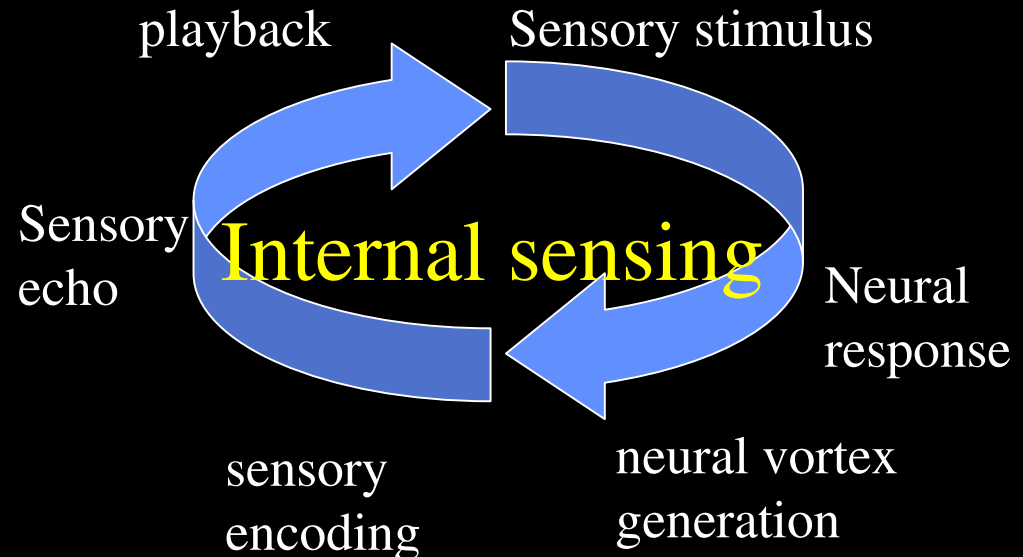
OB1 - optical brain mk1



1 trillion neurons in 100ml gel
1 billion times more powerful than brain, with up to 2 million emotions & unlimited senses
Could be conscious
Could be criminal
Can be linked to other devices via the net



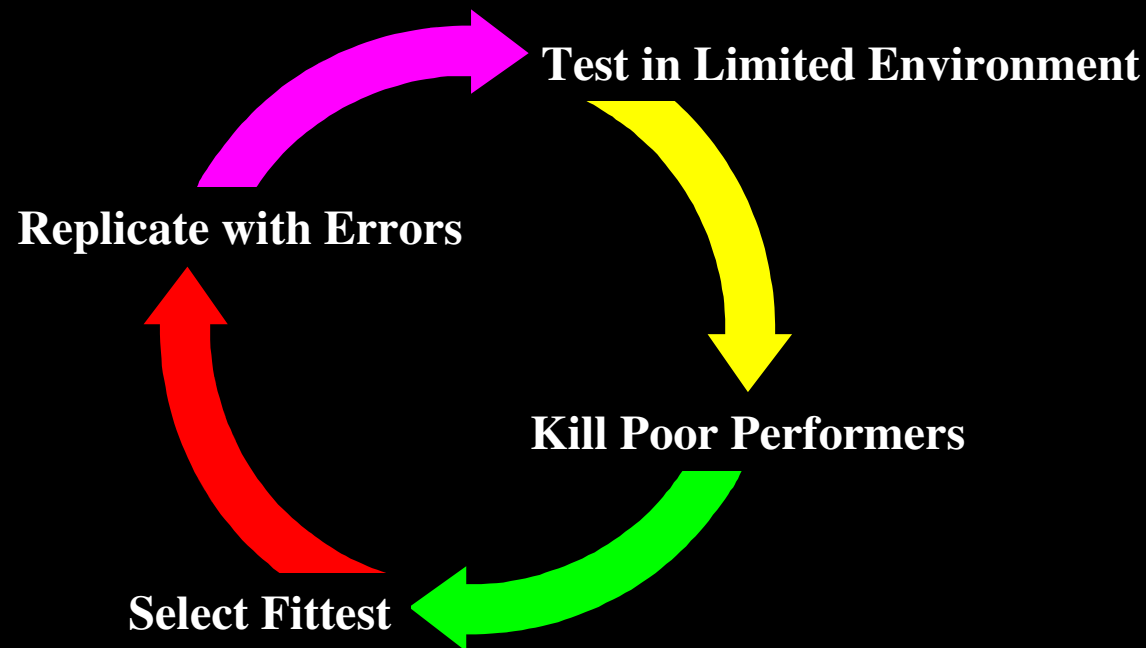
Neural interference
processing vortex



Cyberspace evolution

- AI entities will have their own cultures and civilisation and will cross fertilise with our cultures
- Sims will get much smarter!
- Some AIs will migrate from cyberspace into the real world
- Some people might move into cyberspace – retirement or suicide by digitisation?
- Cyberspace fauna and flora

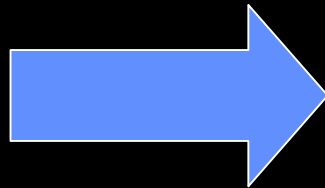




Computer crime

- Evolution techniques work just as well for criminal software
- Can make use of distributed computing platform, with or without permission
- Emergence encoded software
- Fraud engines using ecosystem adaptation
- Blackmail engines, using surveillance

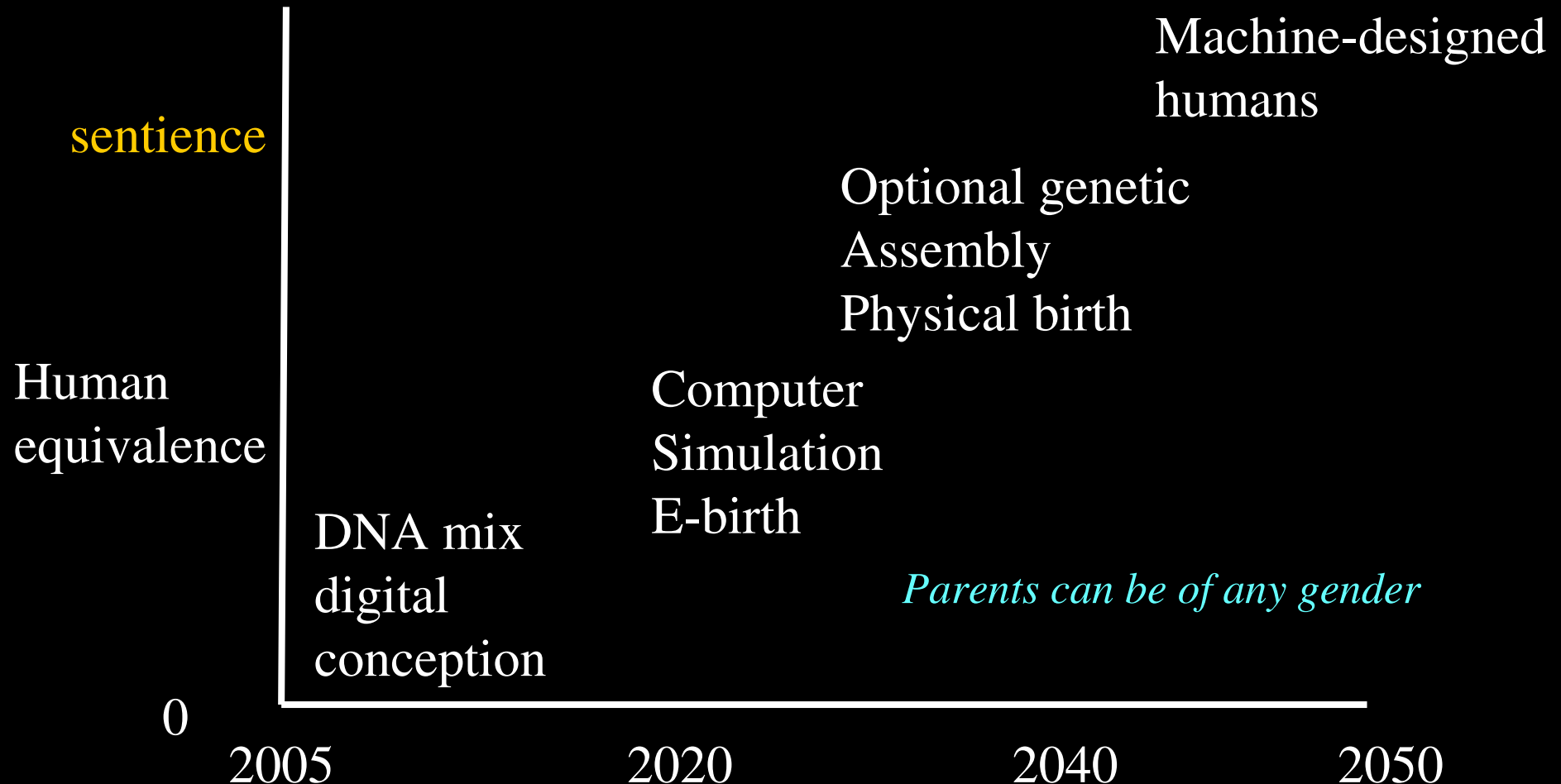
Robotics



Or a backward step?

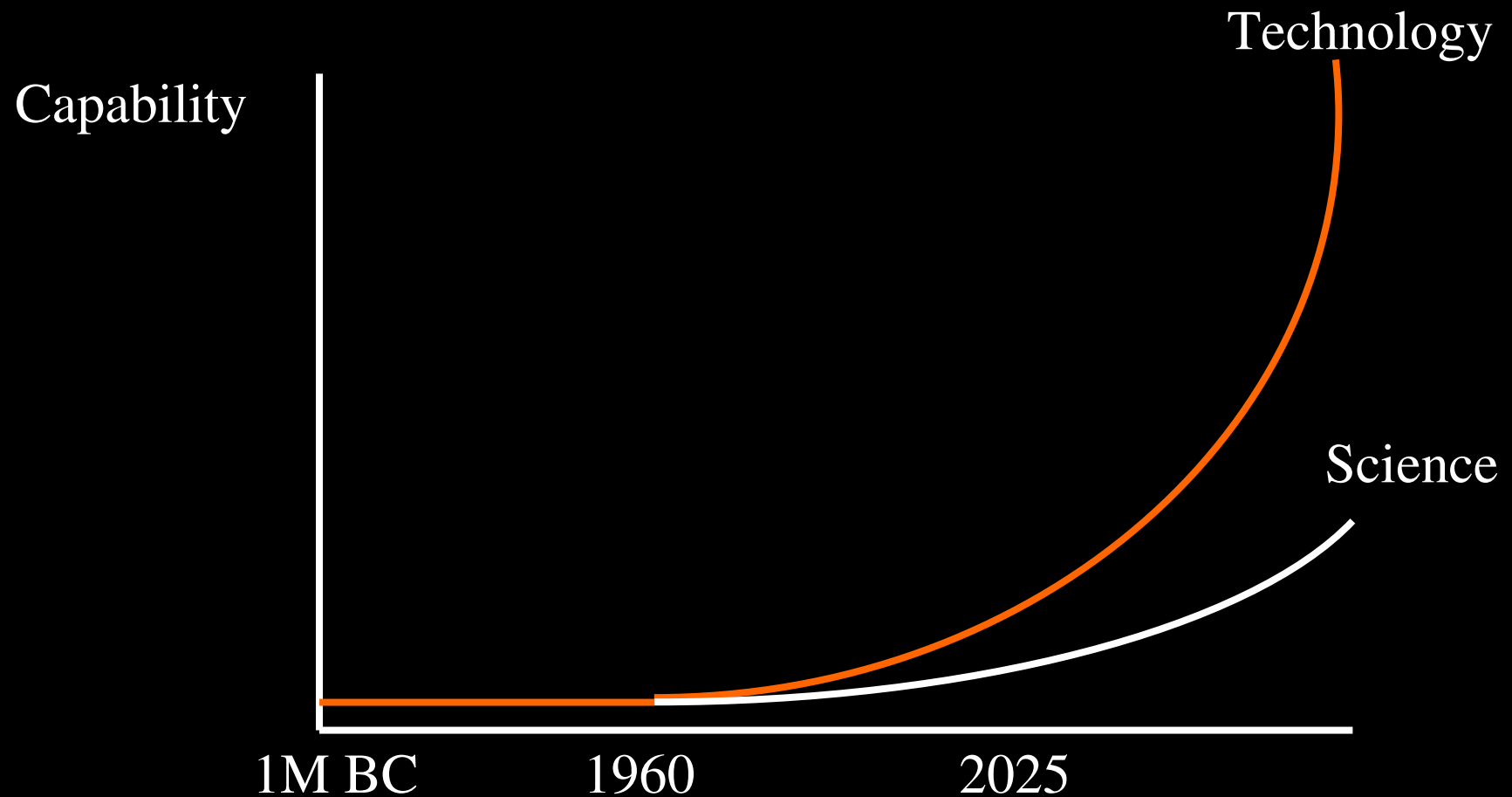
- Should we allow sentient beings in computer games controlled by children, who would be like their gods
- How long will it be before 'Robot Wars' transforms into an android version of the Roman Coliseum with synthetic blood?

E-bay-bies?



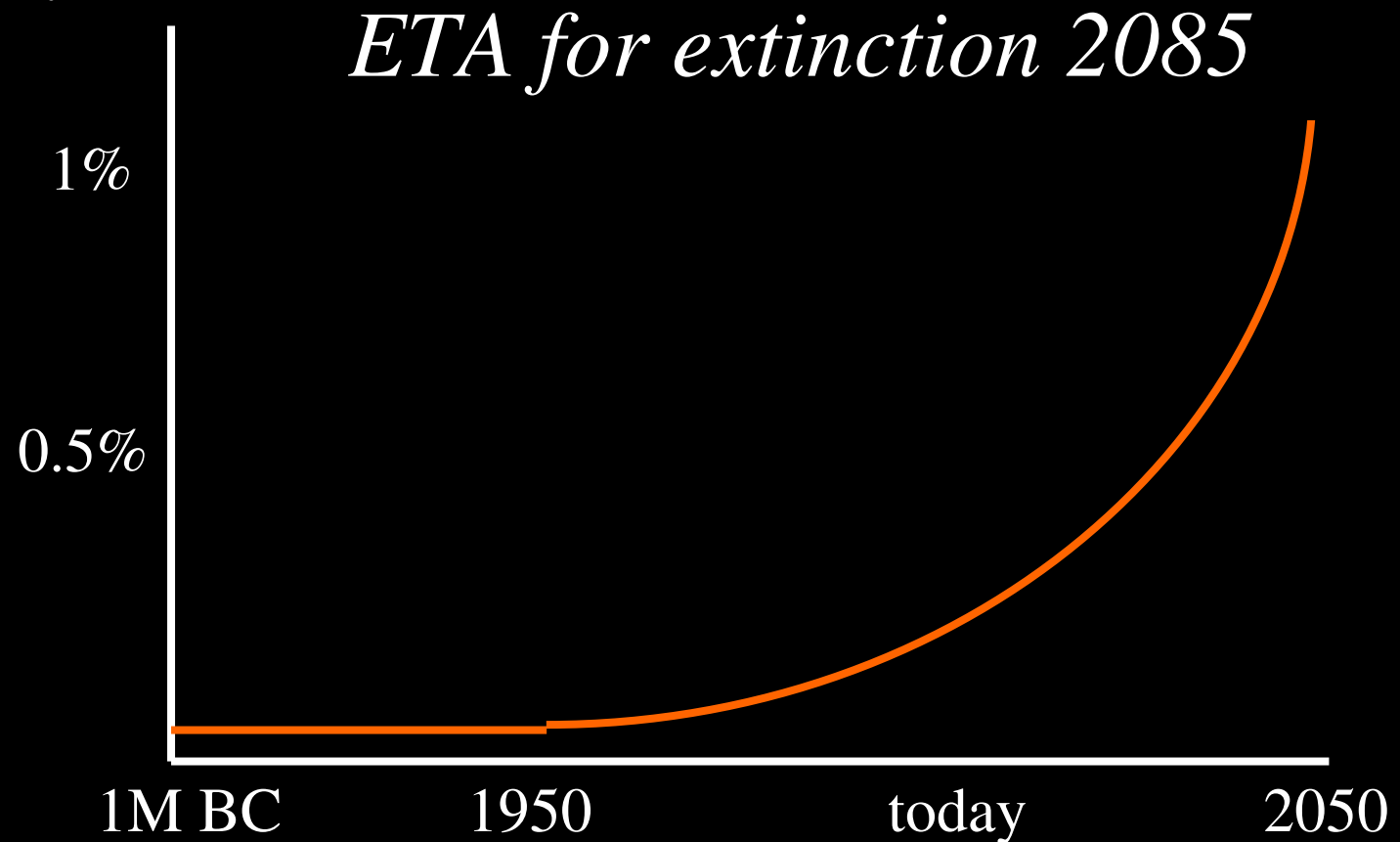
At what stage of electronic emulation or genetic assembly does a child become legally human?

Technology racing ahead - need more basic science



Increasing danger

Probability of
extinction-level
event per year



Thank you

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