

# Artificial Intelligence (AI)

“Intelligent” computers / robots / other machines  
Not today, but perhaps in 20-30 years.

Will they have “free will”?

Will they become “conscious”?

Will they have rights?

*“They may be very different from humans.”*

(This argument has been used to deny rights before!)

# Technology and the Workforce

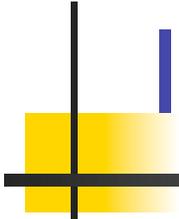
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***Income Gap*** is increasing.

A pervasive sense of meaninglessness.

The individual has little personal control.

People are taking orders from machines.



# Increasing Complexity

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*Imagine a future of incredible technical complexity.*

No one understands “the system”.

Humans can't control the future.

Humans can't predict the future.

Humans can't fix the system  
when it breaks.

# The Singularity

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Ray Kurzweil

Progress is increasing exponentially.

(see next slide)

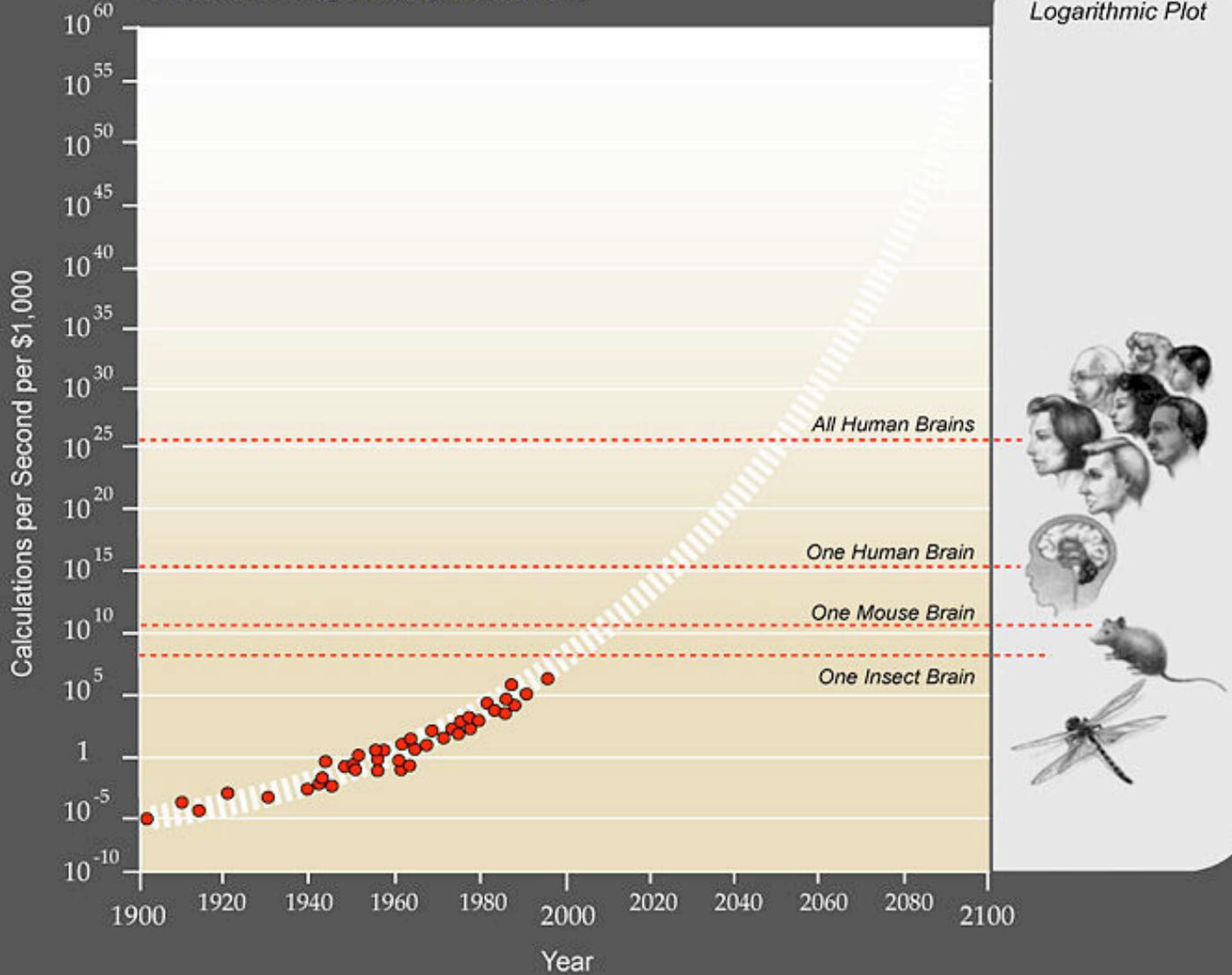
Before we know it, things change so fast  
we can't react.

Something big happens to society

Computers take over?

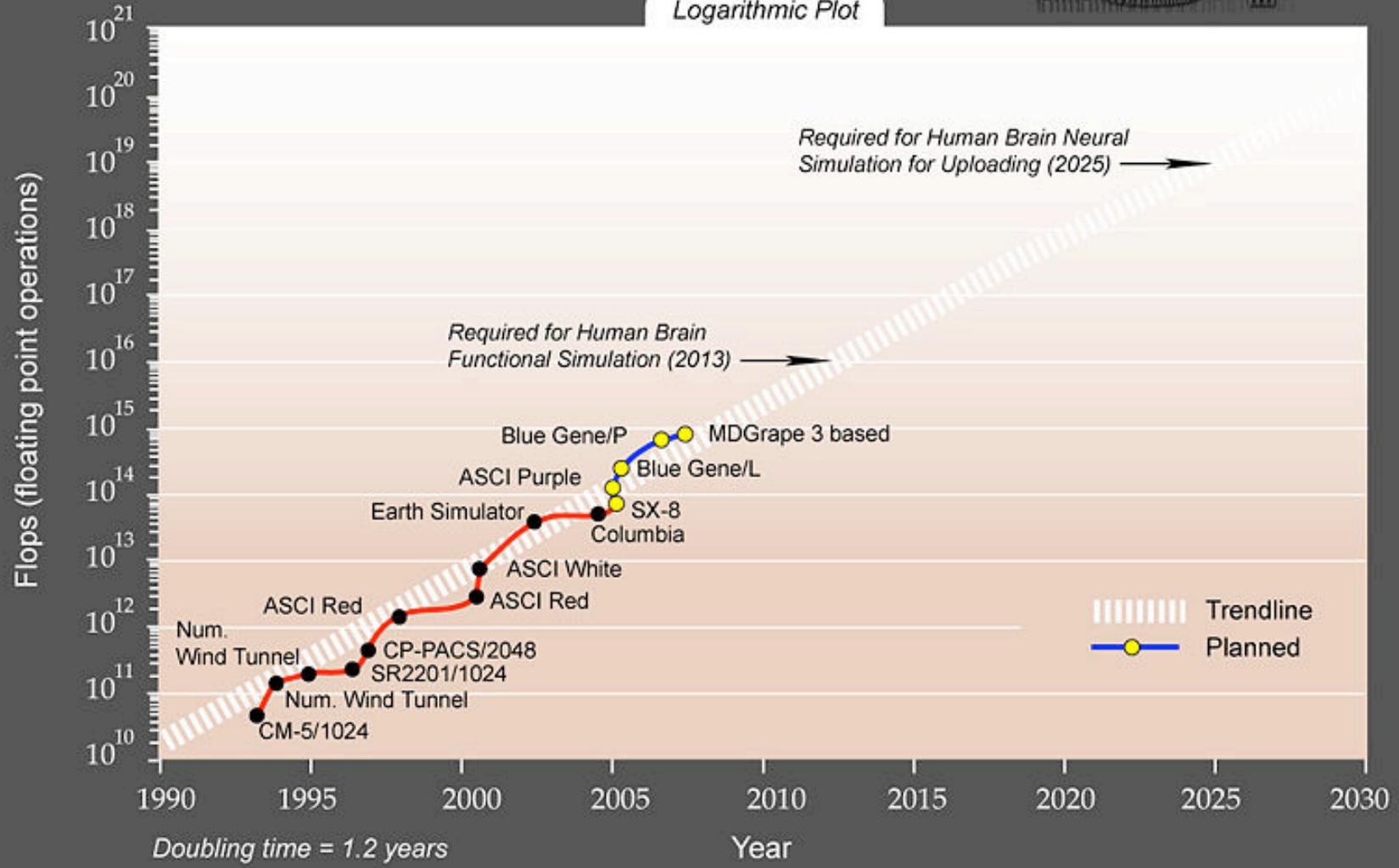
# Exponential Growth of Computing

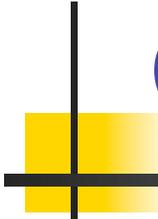
Twentieth through twenty first century



# Growth in Supercomputer Power

Logarithmic Plot





# Computers Take Over

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A Future Vision:

Technology becomes vastly more complex.

AI computers take over control of Earth.

Humans may/may not even know it.

Who was responsible?

Are today's technologists culpable?

# Non-Linear Behavior

- Interconnectedness
  - Feedback
  - Amplification
- System may go “Non-Linear”

*A small perturbation can cause a huge transition / “phase change”*

# Growth of the Economy

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Technology enables more production  
... which enables larger populations  
... which then suck up the production.

Greater productivity leads to

more people, not more individual wealth.

Is a higher population necessarily better?

Is this some that can/should be controlled?

# Impact on Relationships

Humans like to “commune” with others.

## Electronic companionship

Today: Screen time is replacing talking.

Future: Robotic companions?

Automated / virtual sex partners

Will this lead to **isolation** or **greater overall happiness**?

# Manipulating Humans

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Might we soon have technologies that we don't understand at all?

Might we have technologies that no one even knows exist?

# Manipulating Humans

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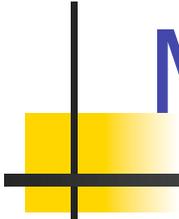
Computers / technology / new theories

... might allow humans to be manipulated  
in ways they don't even detect.

“Subconscious / subliminal suggestion”

Subtle marketing / personalized ads.

Will “free will” become unimportant?



# Manipulating Humans

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## Entertainment

### Future: Addictive Technologies

- 3-D virtual worlds that people don't want to ever leave"
- Technologies we can't foresee?

# Manipulating Humans

Behaviorism: Use reward and punishment to get people to do what you want.

People who purchase a lot get rewarded in ways they don't understand or know.

Buy new shoes: win at video games, get virtual-world rewards.

Fail to consume: Your fast food diet is customized toward blandness, etc.

# Centralized Databases

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Contain lots of personal information:

List of friends, sex partners, etc.

Psychological profile, IQ, etc.

Criminal tendencies

Appraisals of loyalty to the party, etc.

# Centralized Databases

- What books you've purchased / read
- What classes you've taken / grades
- E-mails you've viewed / websites visited.
- Movies / TV shows viewed.
- Who your friends are and what they know.

*In short: What information you have!*

# Centralized Databases

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- DB complexity, # of DBs
- Impossible for individuals to detect or correct erroneous information!