

# *Economics of Singularity*

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# *Hedgehogs vs Foxes*

- Tetlock: **Expert Political Judgement**
  - Taleb: **Black Swan**
  - Gardner: **Future Babble**
- Experts with an *idée fixe* (hedgehogs) were worse than random chance
- Regression and extrapolation typically outperformed experts

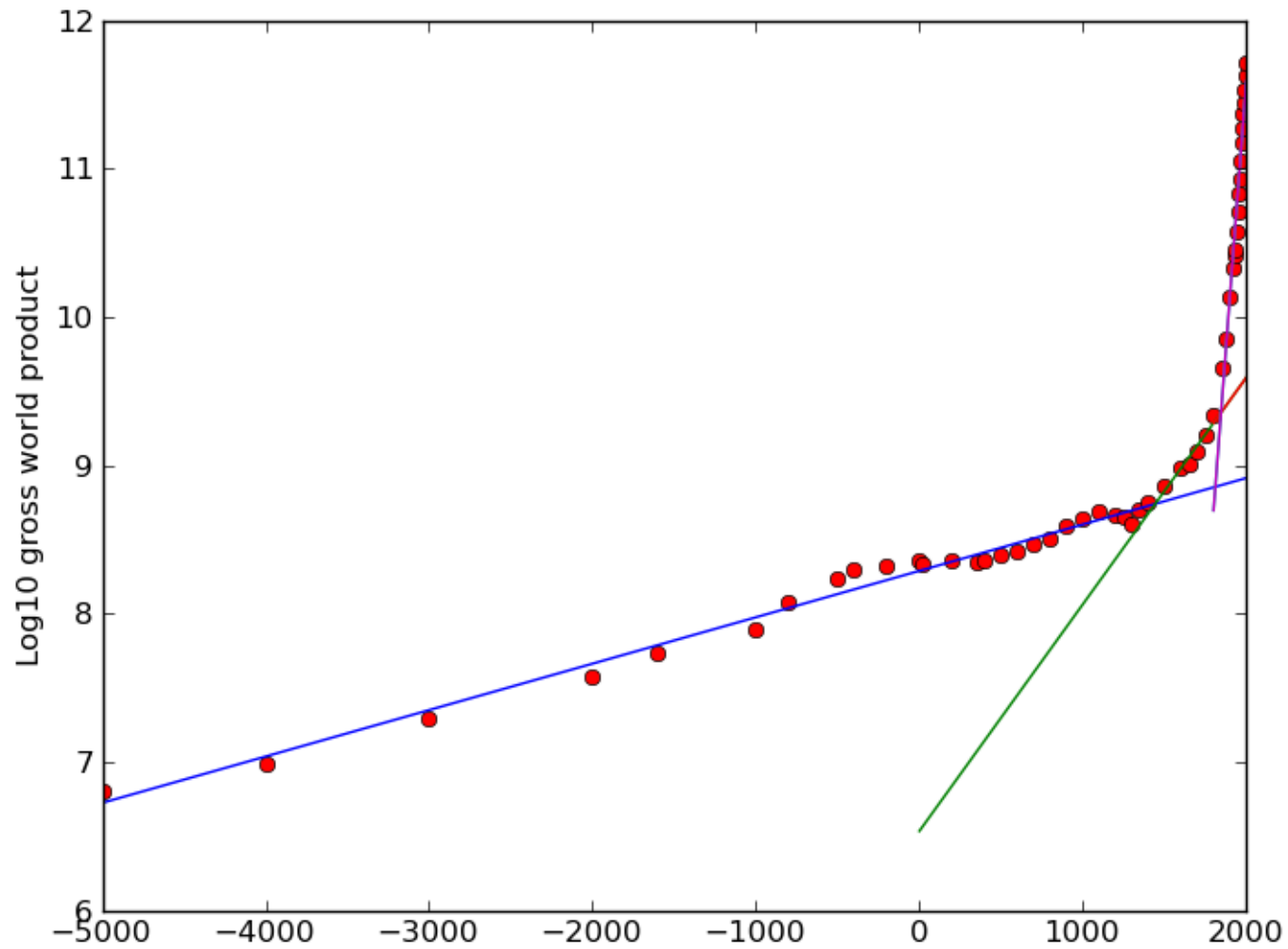
# *Memetics, not genius*

- Kelly: **What Technology Wants**
- Johnson: **Where Ideas Come From**
- Ridley: **The Rational Optimist**
- Dyson: **The Sun, the Genome, & the Internet**
- Harford: **Adapt!**

*Sir Isaac Newton:*

“If I have seen further it is by standing  
on ye sholders of Giants.”

# *Gross world product*

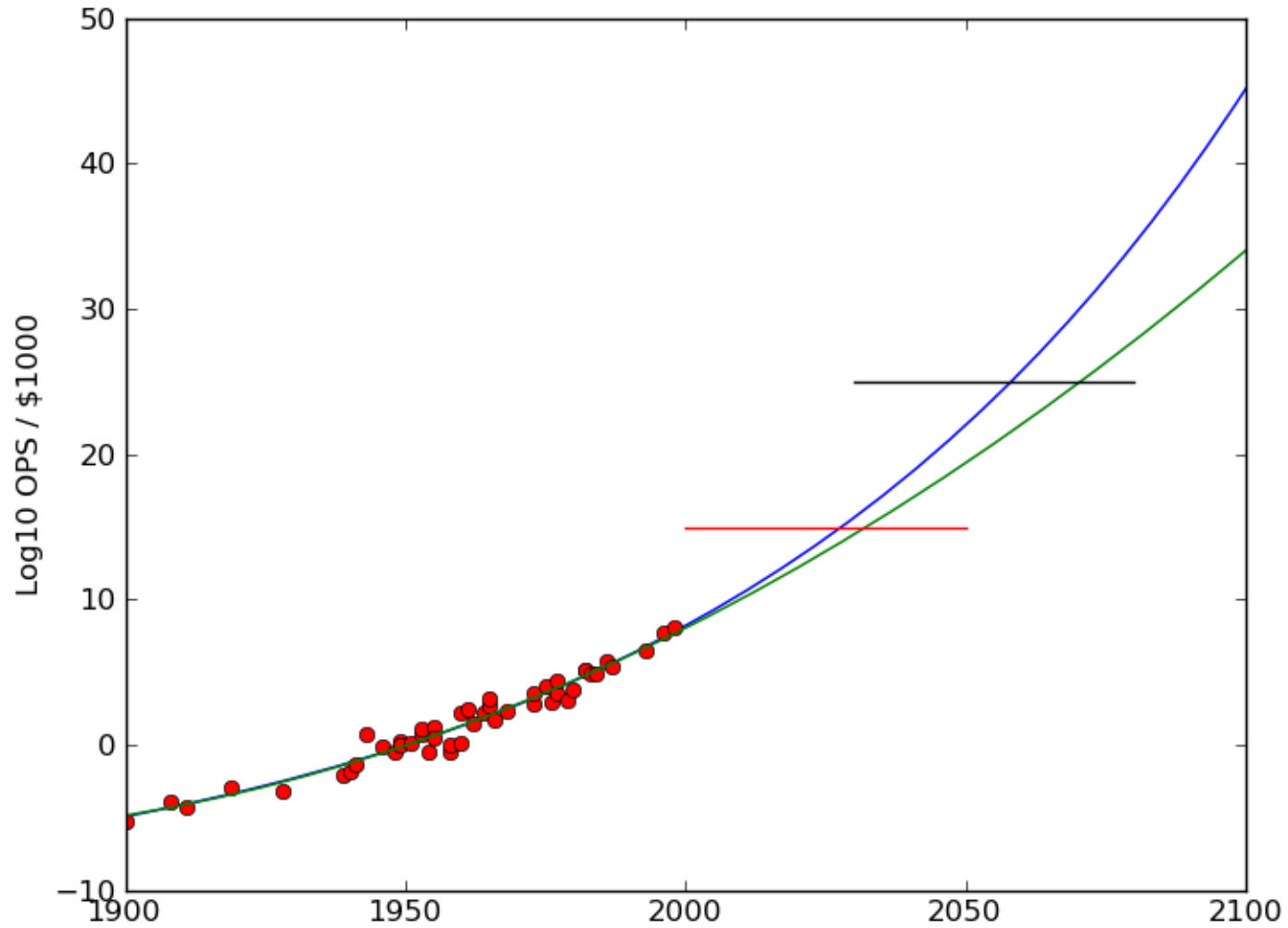


# *Historical Growth Mode*

## *Doubling Times*

<b>Mode</b>	<b>Doubling Time</b>	<b>When</b>	<b>Rate</b>
<b>Agriculture</b>	<b>1000</b>	<b>5000 BC</b>	<b>0.07%</b>
<b>Trade</b>	<b>60</b>	<b>1500</b>	<b>1%</b>
<b>Industry</b>	<b>15</b>	<b>1800</b>	<b>5%</b>
<b>Singularity?</b>	<b>1</b>	<b>20??</b>	<b>100%</b>

# Moore's Law



# *The Printing Press Presaged the Industrial Revolution*

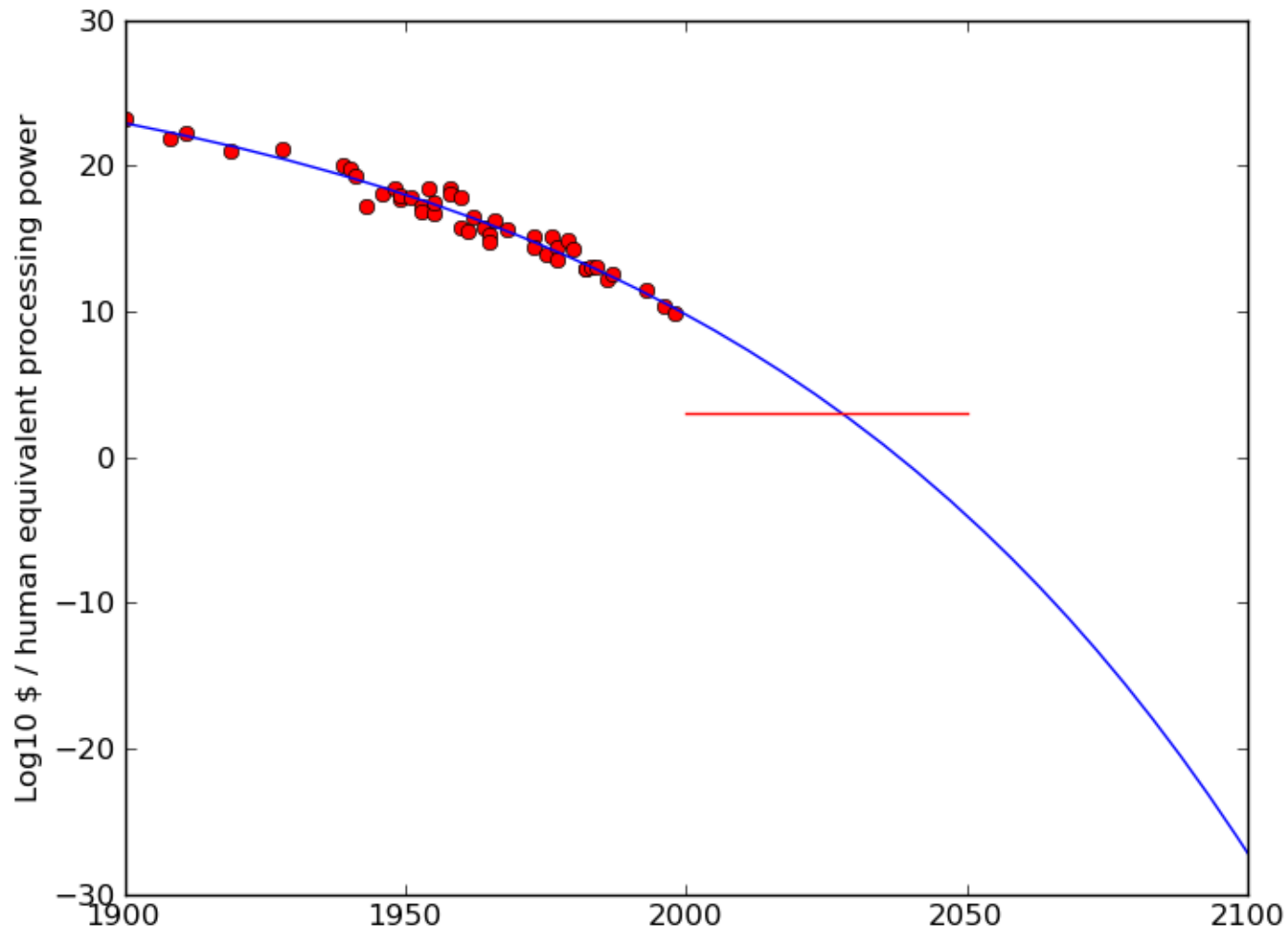
- Complex mechanical capital
- Precision, interchangeable parts (type)
- Enabled mass production
- By ca. 1700, printed material had jumped to a 5% growth mode
- The general economy followed, using similar techniques



# *Moore's Law Presages the Nanotech Revolution*

- Digital production and copying technology
- Indistinguishable parts (bits, atoms)
- Enables massive decentralization of production
- By ca. 2000, information had jumped to a 100% growth mode
- The physical economy will follow, using similar techniques
- I do *not* think growth will exceed  $O(100\%)$  before 2100: there are too many bottlenecks

# *Cost of a human-level AI*



\$1000 in 2027, \$1 in 2037

# *AIs in a Malthusian Market?*

- The economics says yes
- But most AIs will be owned anyway
- Consider your AIs:
  - Your imaginary friends
  - Workers at You, Inc
  - Your loyal subjects
- Why would anyone put an AI on the labor market?
- Independent AIs will be corporations, competing for customers.

# *Will AIs compete humans out of the labor market?*

- Yes
- Collectively, this is what we *want*
  - The human race “retires”
  - The robots do all the work
  - Human activity consists in deciding what we want
  - Upper classes have lived this way throughout history

# *The Man With a Country*

- By 2065, a billion AIs will cost \$1
- We can simply give each person a nationful of productive intellects, at trivial cost
- Similarly, an autogenous nanofactory that can make approximately anything
- The interesting part will be getting there from here