

# *Understanding the Digital Future*

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# Agenda

Part I: Exponential Growth

Part II: Portability & Size

Part III: Borders Of Reality

Part IV: Technology In Our Lives

*Part I: Exponential Growth*

# Moore's Law & Singularity

## 1 The accelerating pace of change ...



## 2 ... and exponential growth in computing power ...

Computer technology, shown here climbing dramatically by powers of 10, is now progressing more each hour than it did in its entire first 90 years

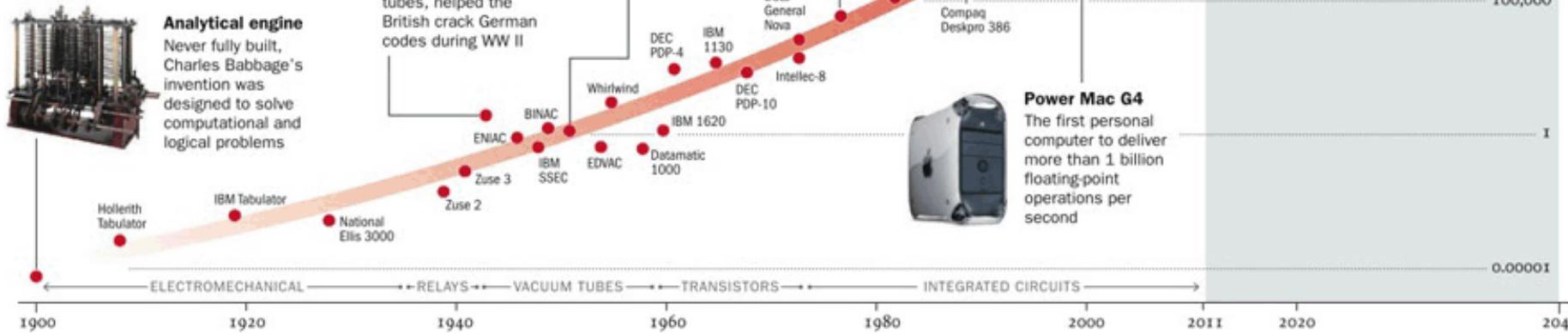
### COMPUTER RANKINGS

By calculations per second per \$1,000



## 3 ... will lead to the Singularity

Surpasses brainpower equivalent to that of all human brains combined



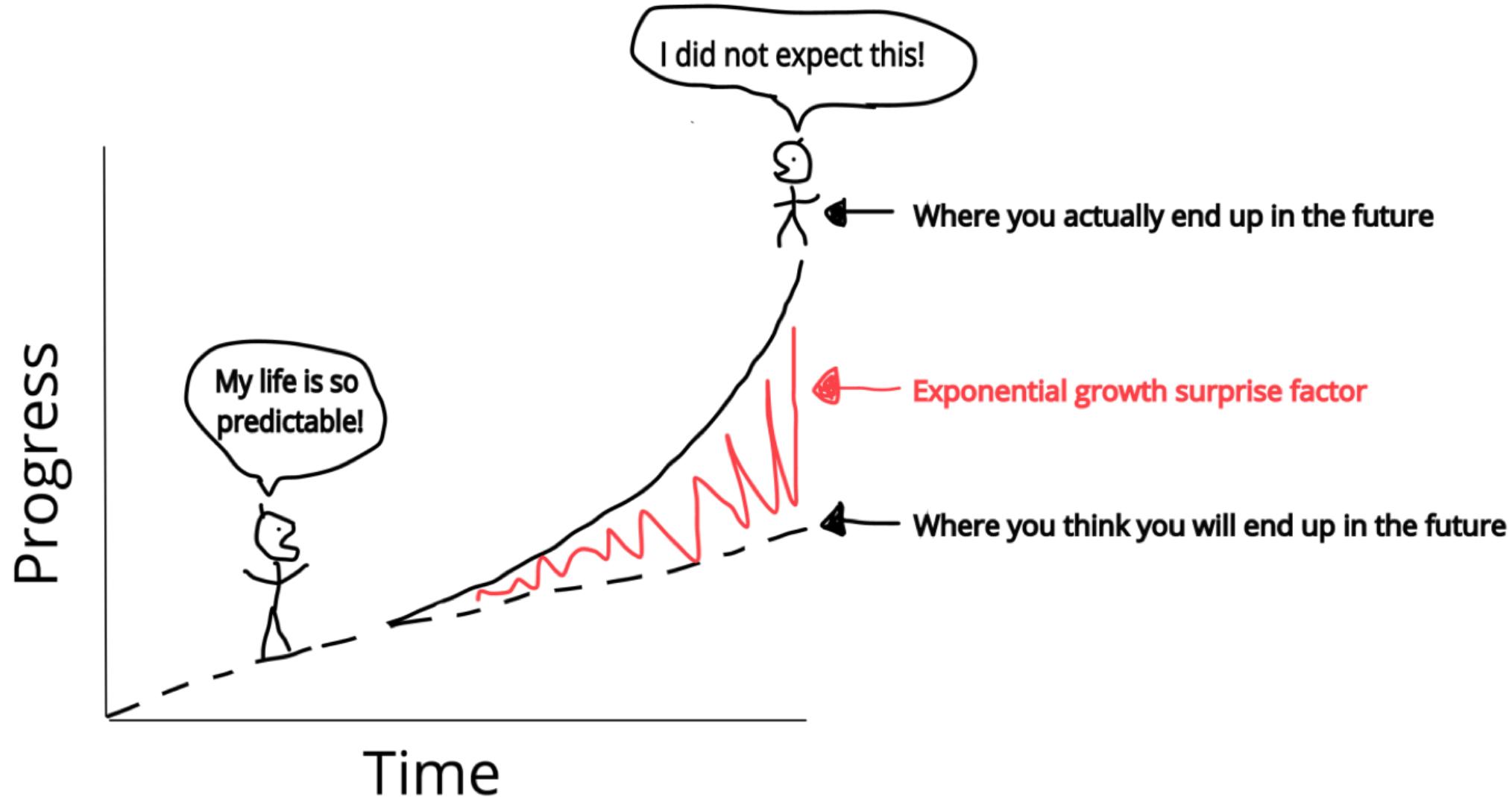


*Let's do an experiment*

From 1...

... to 9.223.372.036.854.780.000

## Humans and exponential growth



# Moore's Law & Singularity

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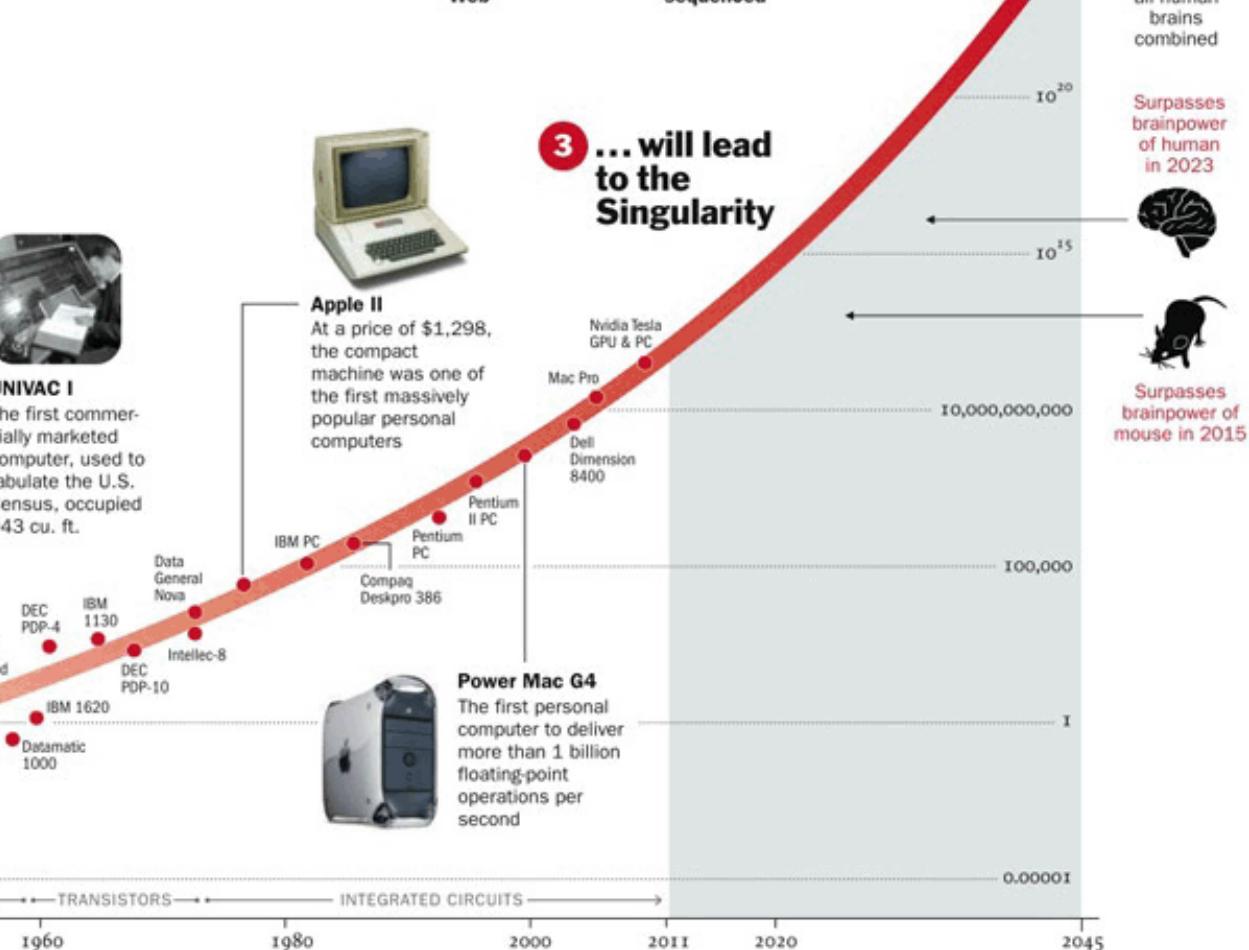
**Analytical engine**  
Never fully built, Charles Babbage's invention was designed to solve computational and logical problems



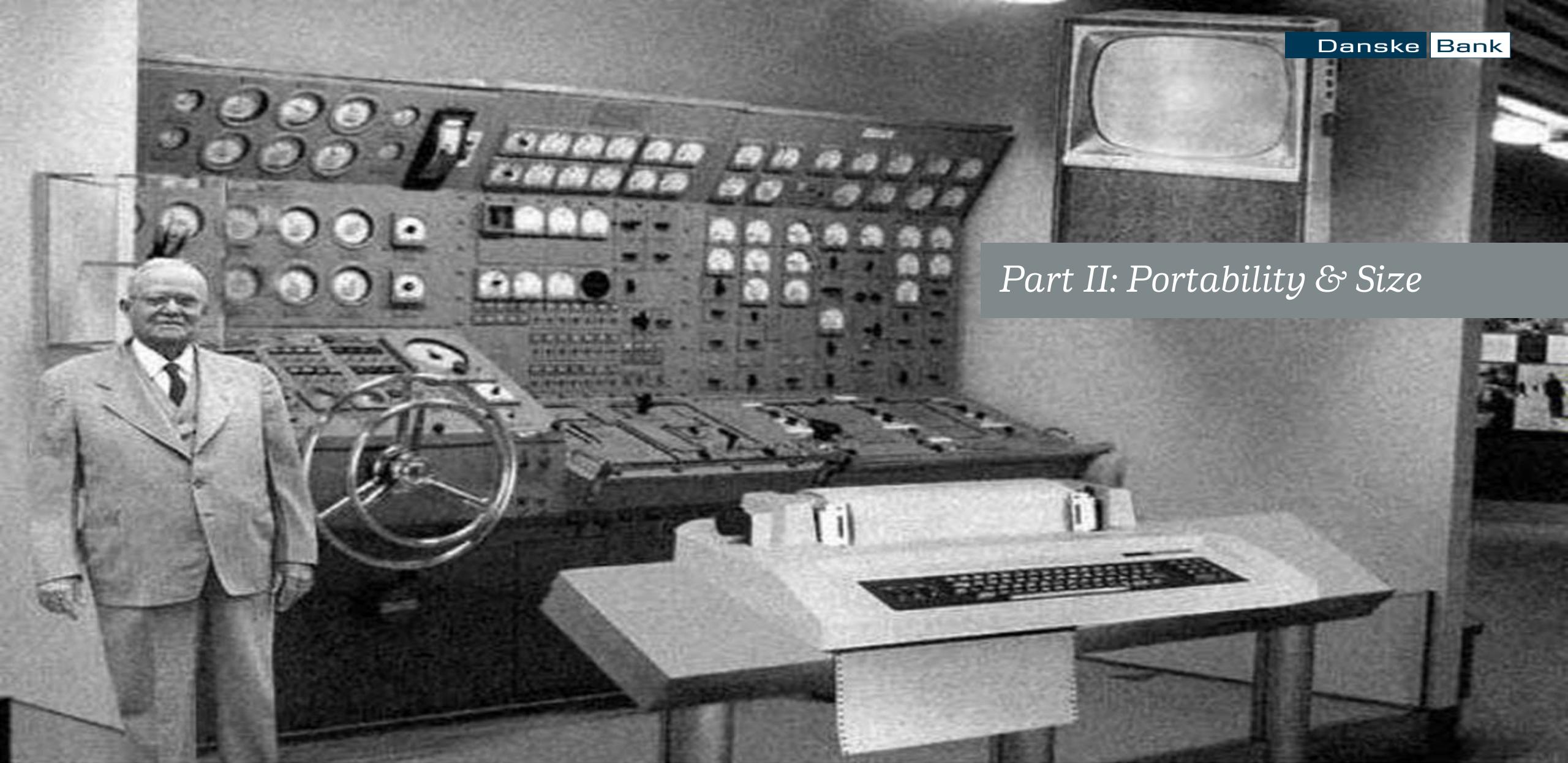
**Colossus**  
The electronic computer, with 1,500 vacuum tubes, helped the British crack German codes during WW II



**UNIVAC I**  
The first commercially marketed computer, used to tabulate the U.S. Census, occupied 943 cu. ft.



## 3 ... will lead to the Singularity

*Part II: Portability & Size*

Scientists from the RAND Corporation have created this model to illustrate how a "home computer" could look like in the year 2004. However the needed technology will not be economically feasible for the average home. Also the scientists readily admit that the computer will require not yet invented technology to actually work, but 50 years from now scientific progress is expected to solve these problems. With teletype interface and the Fortran language, the computer will be easy to use.

*... fast forward to 2015*

MIND MELD Updated 9/28/2015 10:19 p.m.

## DARPA is testing implanting chips in soldiers' brains

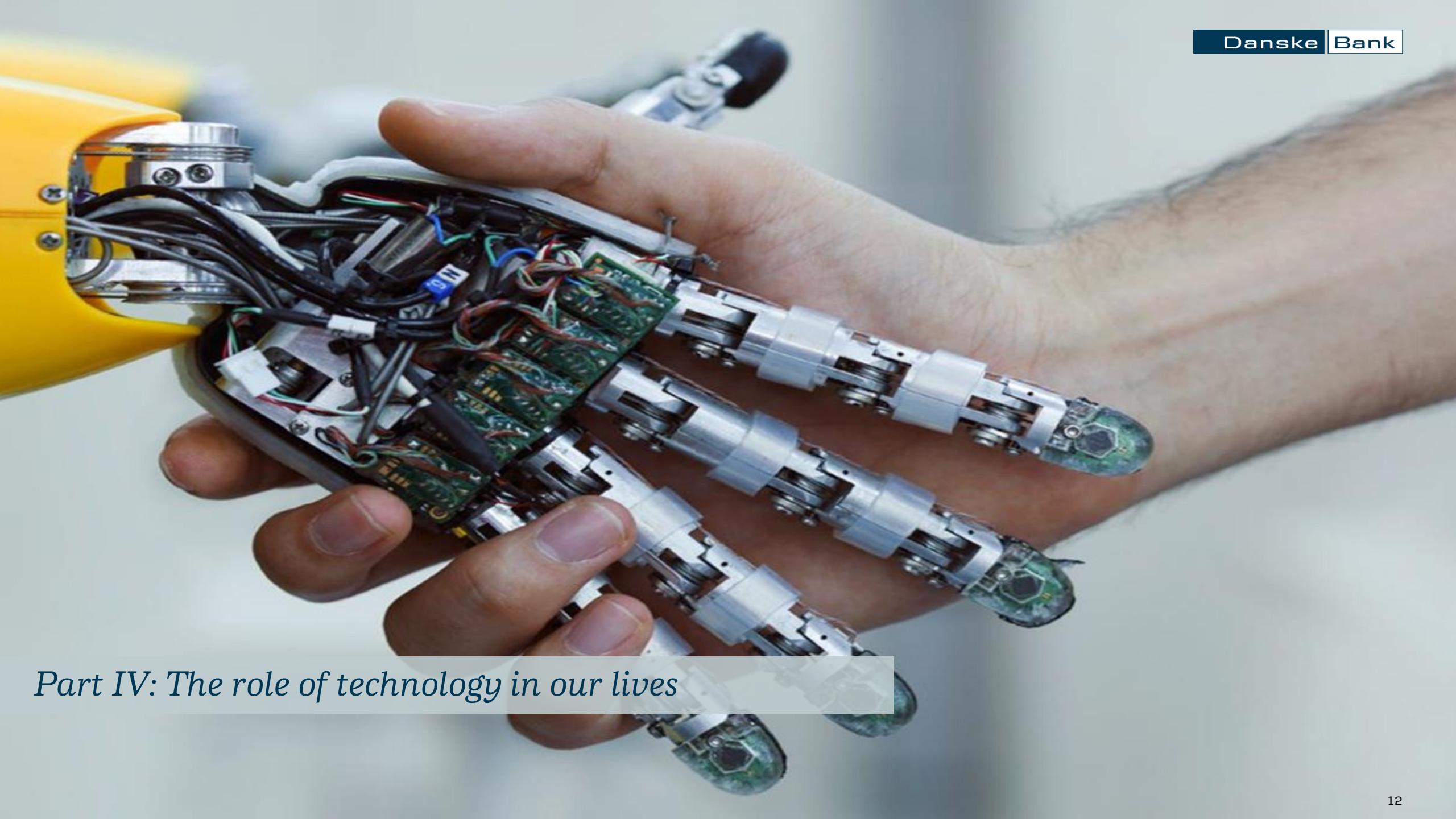




*Part III: Borders Of Reality*

*An example from 5<sup>th</sup> grade*





*Part IV: The role of technology in our lives*

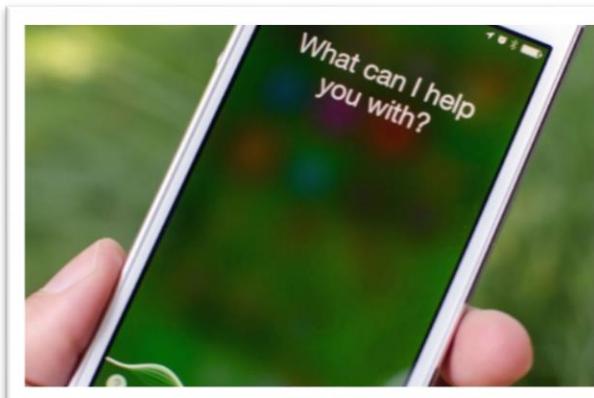


When did technology take over our lives?

It happened a long time ago,  
we are just now noticing.



Some hints...



# Imagine...



A chip in your brain...

... that connects your thought with your environment...

... you could think of a cup of coffee and the connected brewer in the corner makes it happen

... or that connects your brain with somebody else's brain...

... so you would literally see with their eyes...

... sense what they sense...

... and you could control their legs...

... and they could control your hands

... or that connects to a central computer somewhere...

... that takes over if you fall asleep when driving...

... that schedules a doctor's appointment if you are building up to having a stroke...

... that stops you from having that last drink...

... or from overreacting in an argument with your spouse...

... or that makes you vote for Trump...

... or that blocks any hostile feelings towards other people...

... or the opposite

And now imagine if you did not know that this central computer existed, nor that you had a chip in your brain. In fact, it is no longer a chip, it is all coded into your genes!

2017 - 24 - 10

## Conclusions

1. As humans we are inherently poor at predicting exponential development.
2. By 2030, our thinking and decision making will likely be so enhanced by artificial intelligence that we cannot imagine today what we will be capable of.
3. Singularity would essentially make the human brain obsolete.

## Conclusions

*What can we do?*

Resistance is futile.

Get ready to adjust – the winners will be the ones that adapt to the new era(s) the quickest.

Collaborate and help each other to adapt.

*Questions?*

