Fintech:
How To Make Sense Of All The Hype

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What we'll talk about today

- Make a few observations about technological change, trends and hype

- Analyze three "big" trends and discuss their impacts

- Leave you with some tips

Broadly: "An economic industry composed of companies that use technology to make financial systems, transactions and decisions more efficient and effective"

Finance   **FinTech**   **Technology**
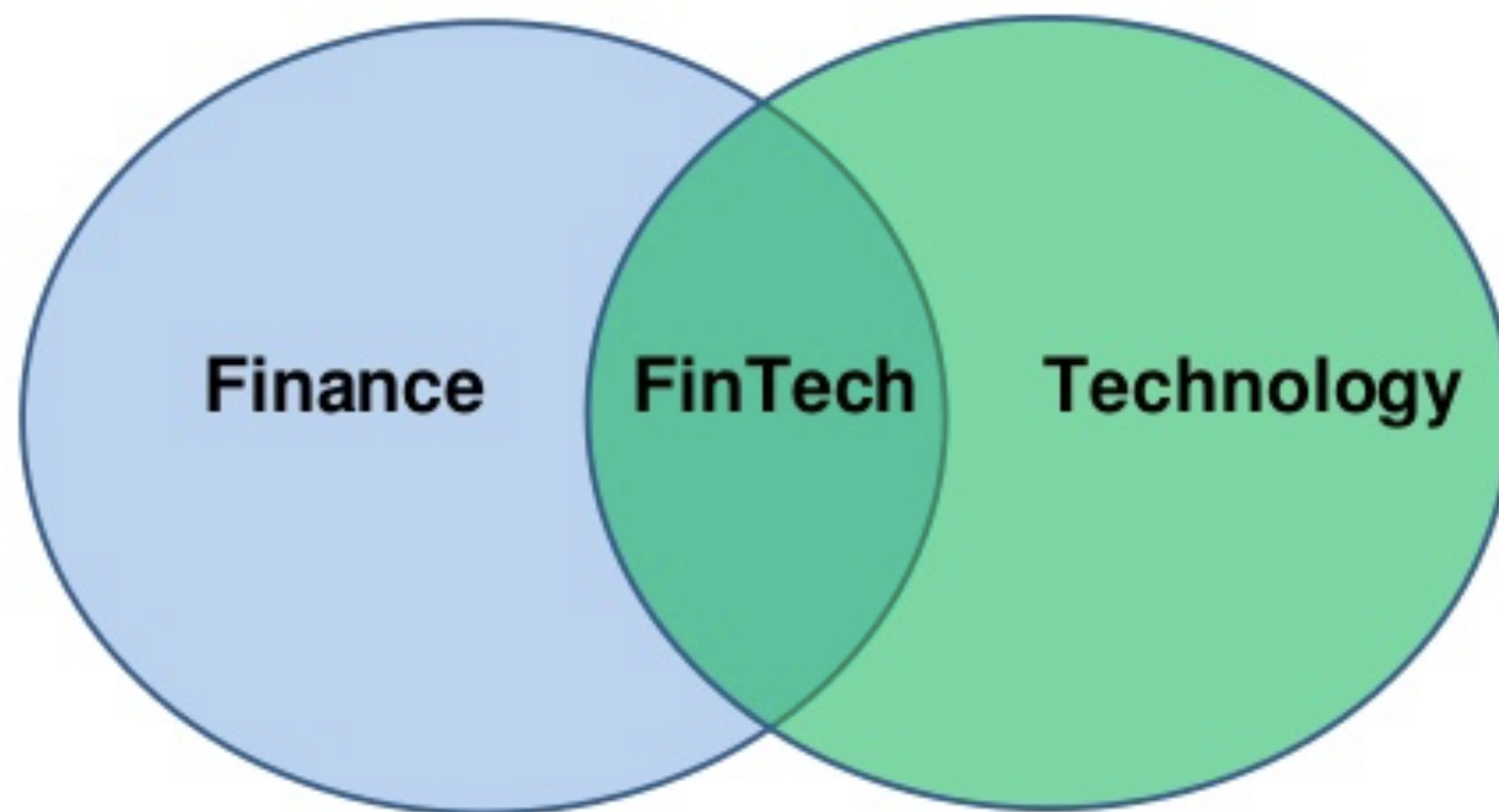
fin·tech
/ˈfinˌtek/ 🔊

noun

computer programs and other technology used to support or enable banking and financial services.
"fintech is one of the fastest-growing areas for venture capitalists"

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REALITY CHECK

1.
Paradigm shifts do not happen over night
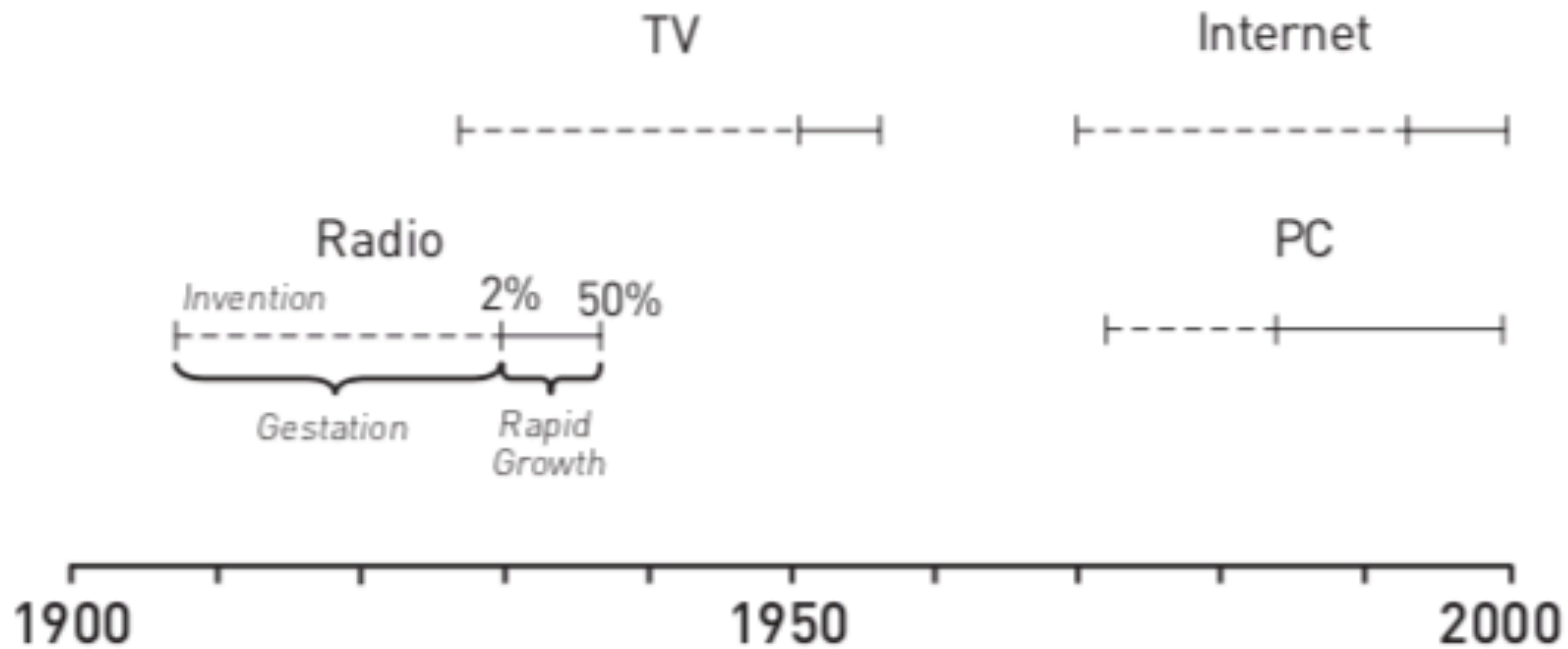
Figure 5. Four important technologies of the past century took similar amounts of time to mature.

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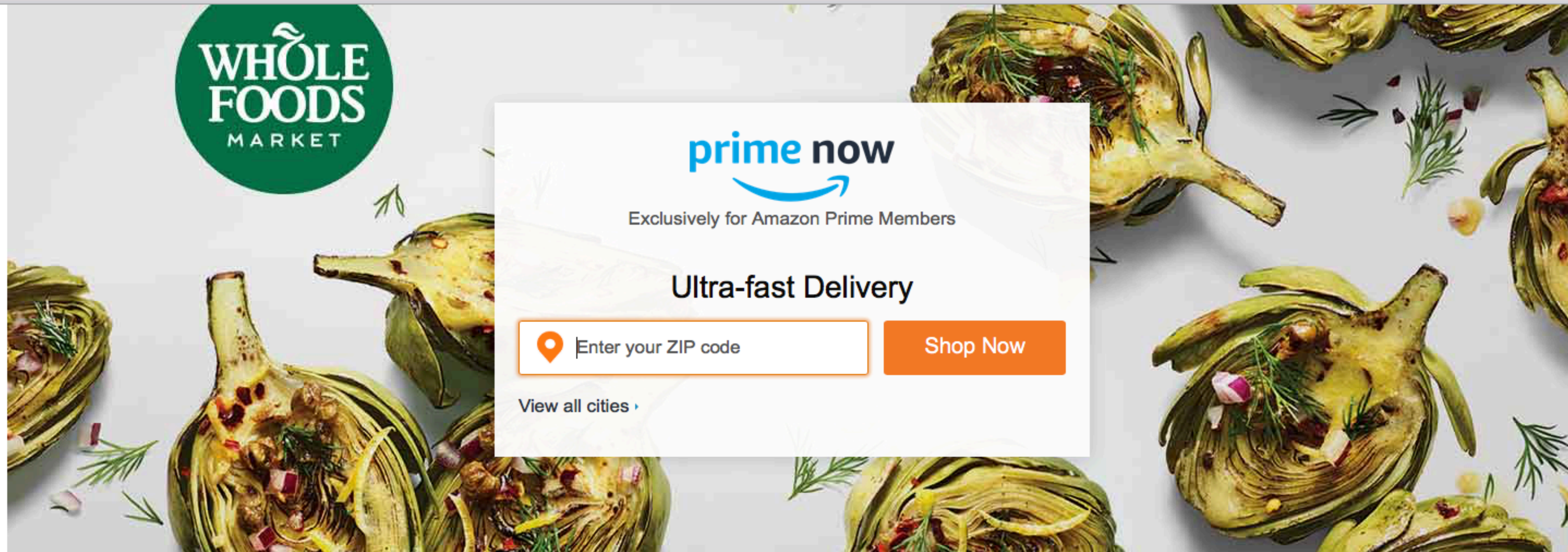- Atlanta, GA
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http://bitcoin.org:80/   Go   OCT **NOV** DEC

4,523 captures   ◄ **13** ►
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▼ About this capture

Bitcoin P2P Digital Currency

Bitcoin is an experimental new digital currency that enables instant payments to anyone, anywhere in the world. Bitcoin uses peer-to-peer technology to operate with no central authority: managing transactions and issuing money are carried out collectively by the network. Bitcoin is also the name of the open source software which enables the use of this currency.

The software is a community-driven open source project, released under the MIT license.

Learn how to use Bitcoin »   Learn more about Bitcoin »

Download

Latest Bitcoin-Qt version: 0.7.1
(see all Bitcoin clients)

- Windows (zip) ~13MB
- Windows (exe) ~9MB
- Ubuntu PPA
- Linux (tgz, 32/64-bit) ~12MB
- Mac OS X ~13MB
- Source code (GitHub)

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Resources

- We Use Coins. Start here!
- Bitcoin clients
- Bitcoin Wiki
  - FAQ
  - Sites That Accept Bitcoin
  - Merchant Howto
- Bitcoin Charts / Markets

Developers

- Satoshi Nakamoto
- Gavin Andresen - gavinandresen@gmail.com (PGP)
- Pieter Wuille - pieter.wuille@gmail.com (PGP)
- Nils Schneider - nils.schneider@gmail.com (PGP)
- Jeff Garzik - jgarzik@exmulti.com (PGP)
- Wladimir J. van der Laan - laanwj@gmail.com (PGP)
- Gregory Maxwell - gmaxwell@gmail.com (PGP)

Press mailing list for presentation and interview requests: bitcoin-press@lists.sourceforge.net

Community

Cryptocurrencies: **2156** • Markets: **18146** • Market Cap: **$188,507,162,742** • 24h Vol: **$55,965,233,036** • BTC Dominance: **55.8%**

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Top 100 Cryptocurrencies by Market Capitalization

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#	Name	Market Cap	Price	Volume (24h)	Circulating Supply	Change (24h)	Price Graph (7d)	
1	Ƀ Bitcoin	$105,244,836,298	$5,950.31	$17,427,412,514	17,687,287 BTC	4.38%		•••
2	◆ Ethereum	$18,778,033,083	$177.20	$8,905,897,044	105,968,626 ETH	7.89%		•••
3	✕ XRP	$12,788,095,703	$0.303849	$1,107,881,352	42,087,046,846 XRP *	1.40%		•••

2.
Humans are weird and poor predictors of change or success

The novelty preference

Social contagion

MEMOIRS

OF EXTRAORDINARY

POPULAR DELUSIONS.

BY CHARLES MACKAY.

AUTHOR OF
"THE THAMES AND ITS TRIBUTARIES," "THE HOPE OF THE WORLD," ETC.

"Il est bon de connaître les délires de l'esprit humain. Chaque peuple a ses folies plus ou moins grossières."
MILLOT.

VOL. I.

LONDON:
RICHARD BENTLEY, NEW BURLINGTON STREET.
Publisher in Ordinary to Her Majesty.
1841.

I'm going VIRAL!

Decision heuristics

- **Availability bias** - we overestimate the value of that which is top of mind

- **Confirmation bias** - we seek out and collect evidence which confirms our existing view

- "**macromyopia**" - We overestimate short term benefits while underestimating long term value

3.
(Long term)
success happens for a reason

- A technology without a revolutionary product is not revolutionary

- A revolutionary product must offer a significantly improvement or new value (usually in customer convenience)

- A technology which requires infrastructure is less likely to be revolutionary

Bob Seidensticker, Future Hype: The Myths of Technology Change

- **Performance** - it works reliably

- **Integration** - it fits with existing systems with little friction

- **Penetration** - users have adopted the innovation

- **Payback** - there are <u>sustainable</u> benefits

Gartner.

Take aways

- **Realize** that paradigm change takes time.

- **Resist** the hype. Look for human biases.

- **Understand** the tech and its history. Does it have the criteria for success?

MASTERING the HYPE CYCLE

HOW TO CHOOSE THE RIGHT INNOVATION AT THE RIGHT TIME

JACKIE FENN | MARK RASKINO

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"Rolf Dobelli is endowed with both imagination and realism, a combination hard to find since the sixteenth-century Renaissance."
—Nassim Nicholas Taleb, author of the *New York Times* bestseller *The Black Swan*
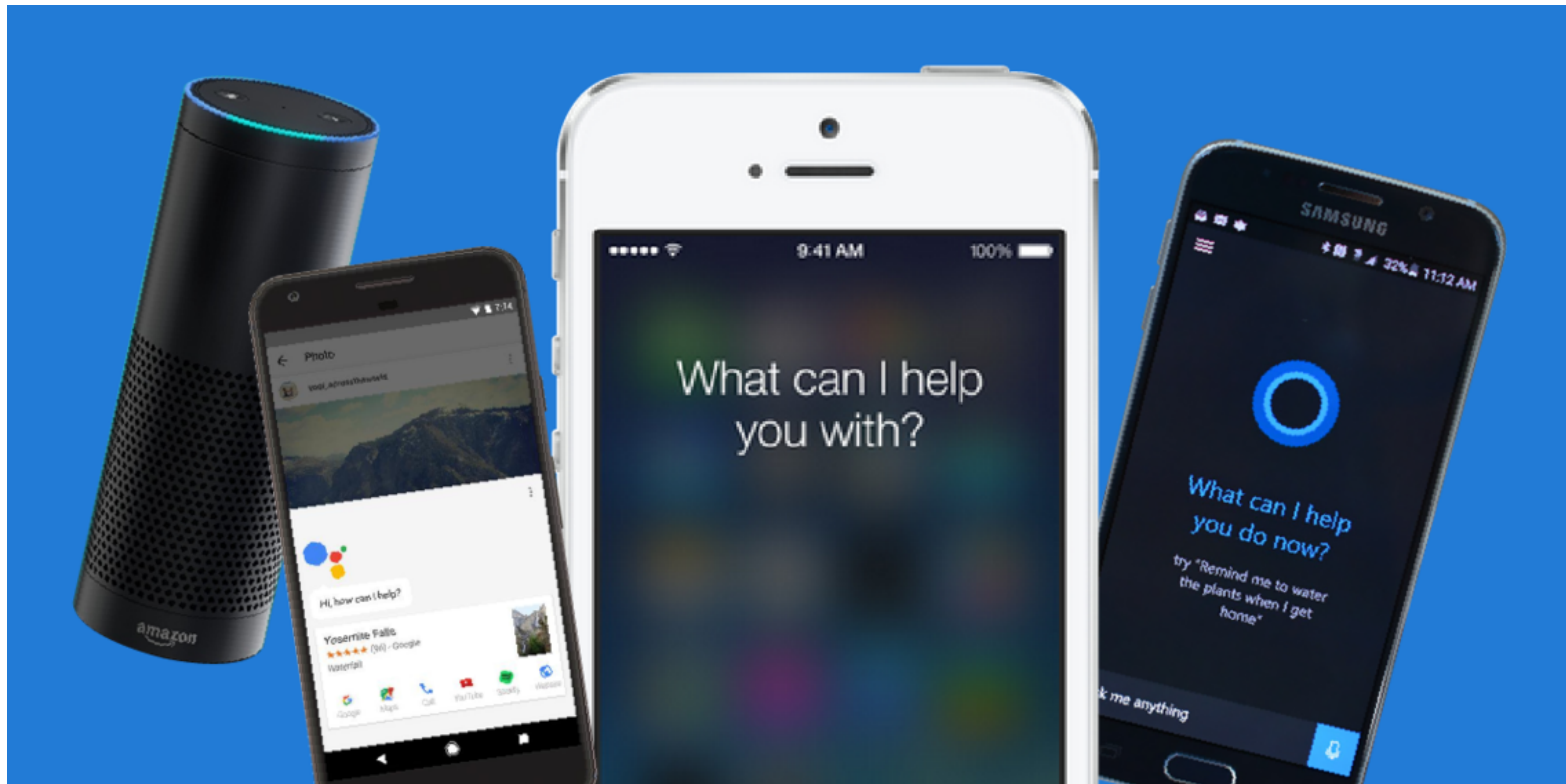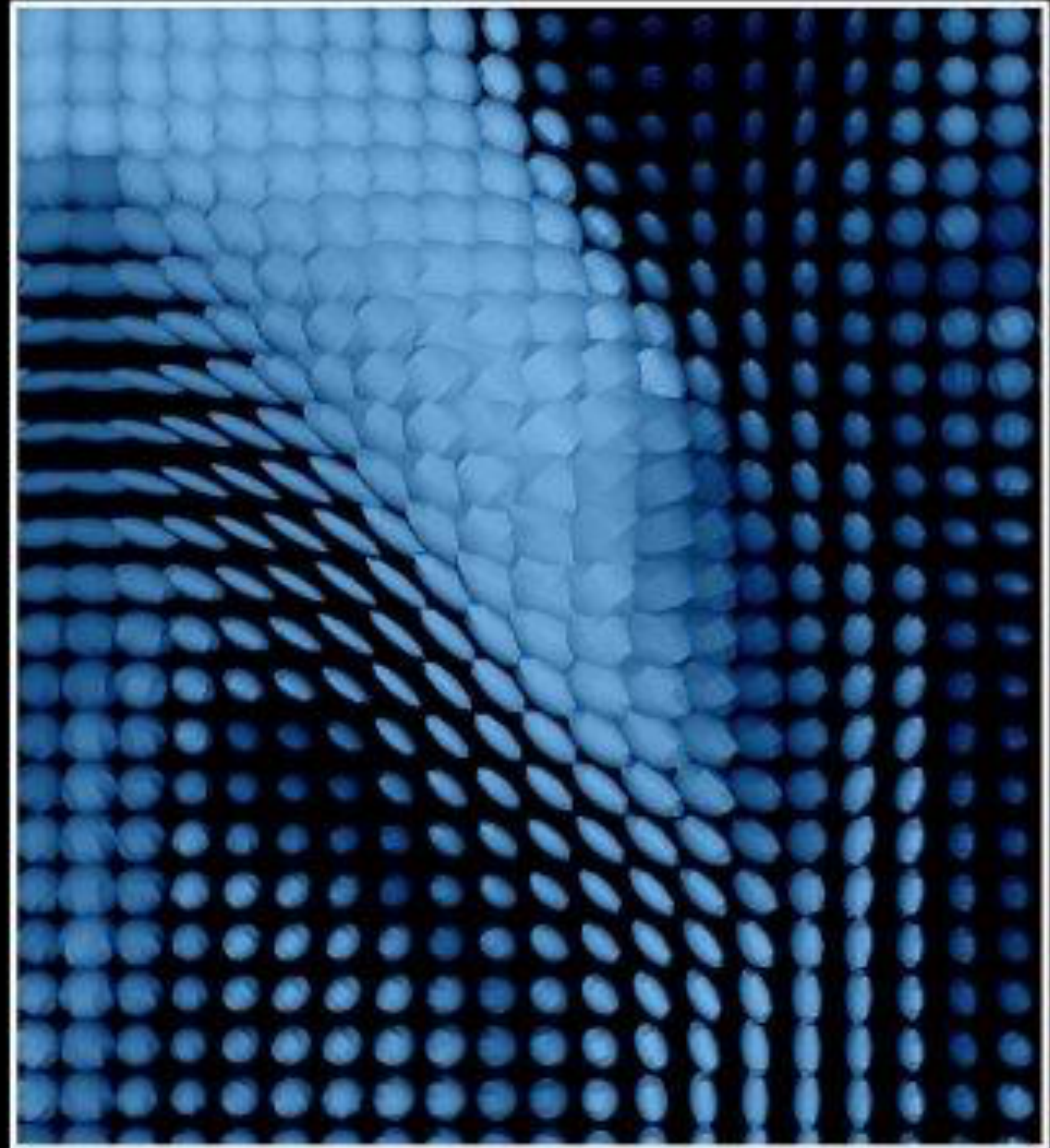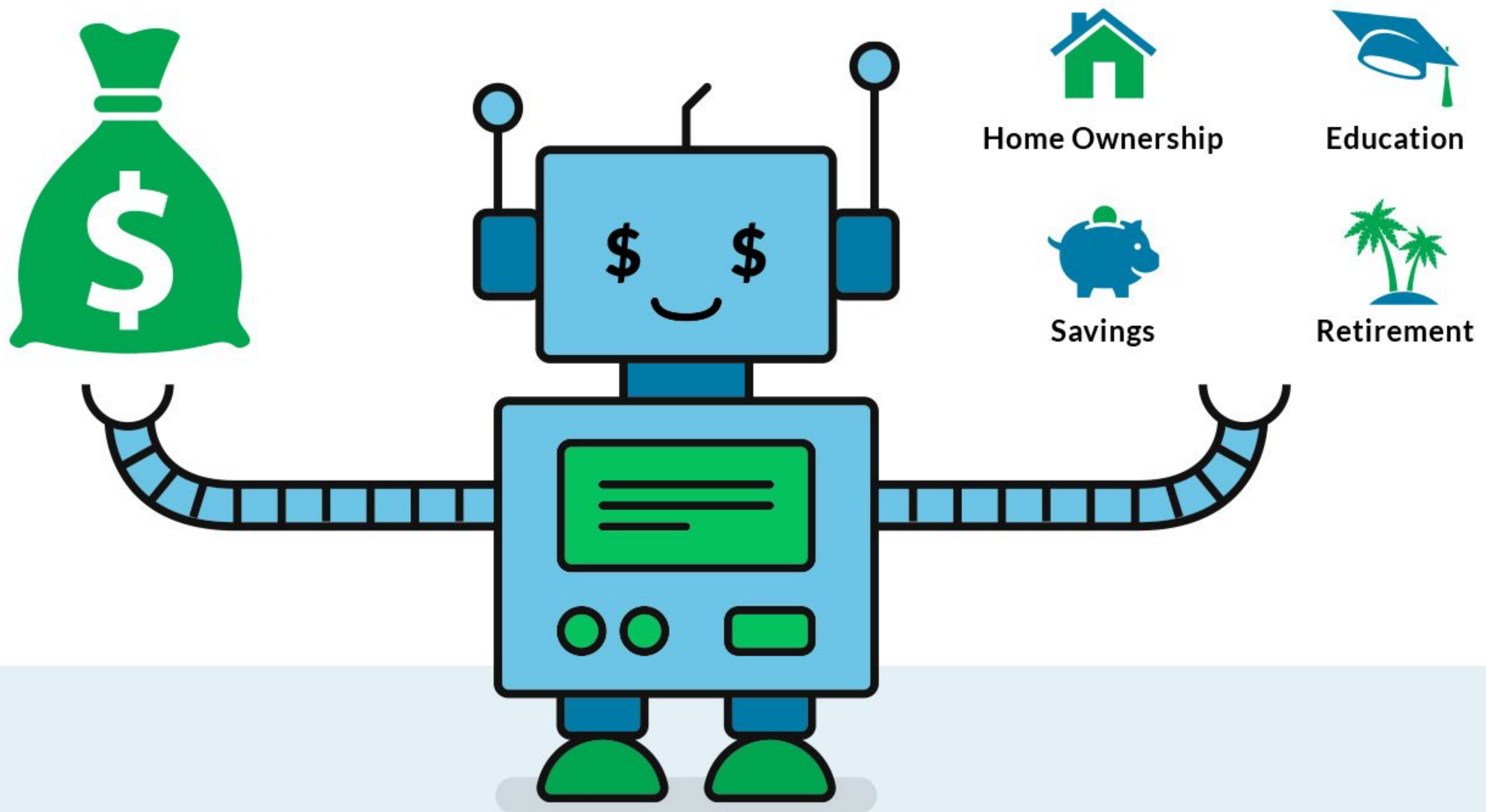
The Art of Thinking Clearly

ROLF DOBELLI

FUTURE HYPE

THE MYTHS of TECHNOLOGY CHANGE   BOB SEIDENSTICKER
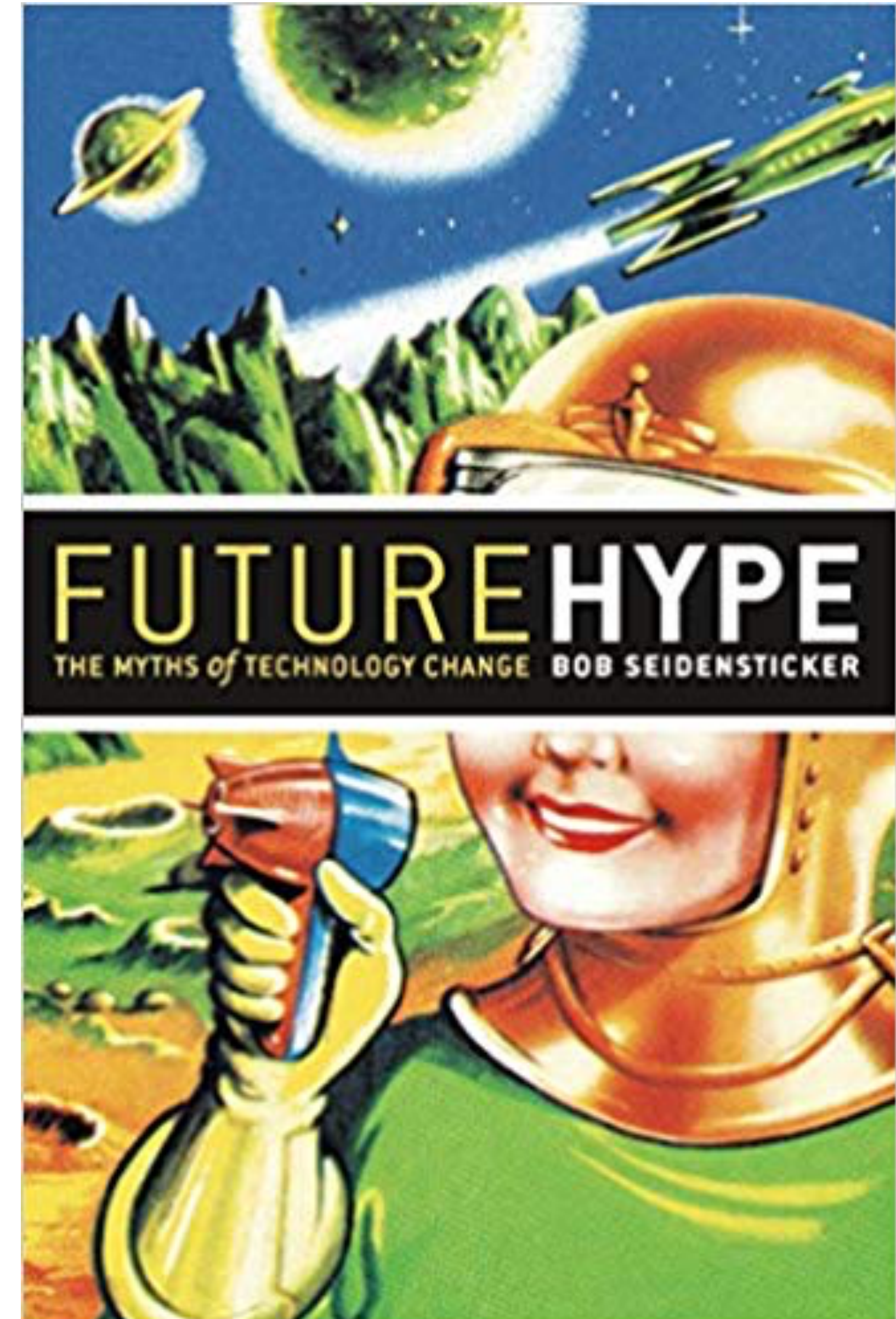
Trend 1

Artificial Intelligence

Medical Image Processing

Home Ownership

Education

Savings

Retirement

```
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                    │   Artificial intelligence   │
                    └─────────────────────────────┘
┌──────────────┐                                    ┌──────────────────┐
│   Robotics   │                                    │   Expert system  │
└──────────────┘                                    └──────────────────┘

┌──────────────────┐                                ┌──────────────────┐
│  Vision Systems  │                                │  Neural Networks │
└──────────────────┘                                └──────────────────┘

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  │  Learning Systems  │              │  Natural language Processing     │
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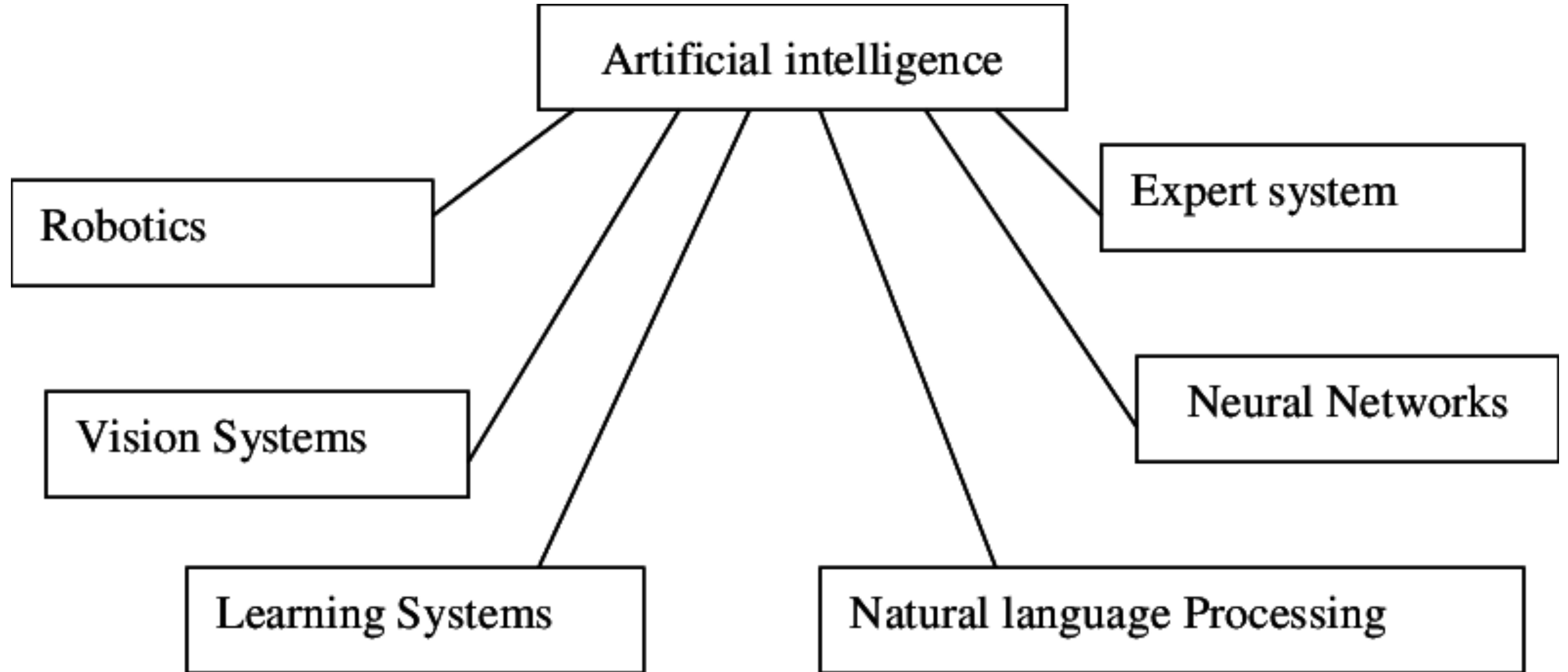
One Dollar's Worth of Computer Power, 1980–2010
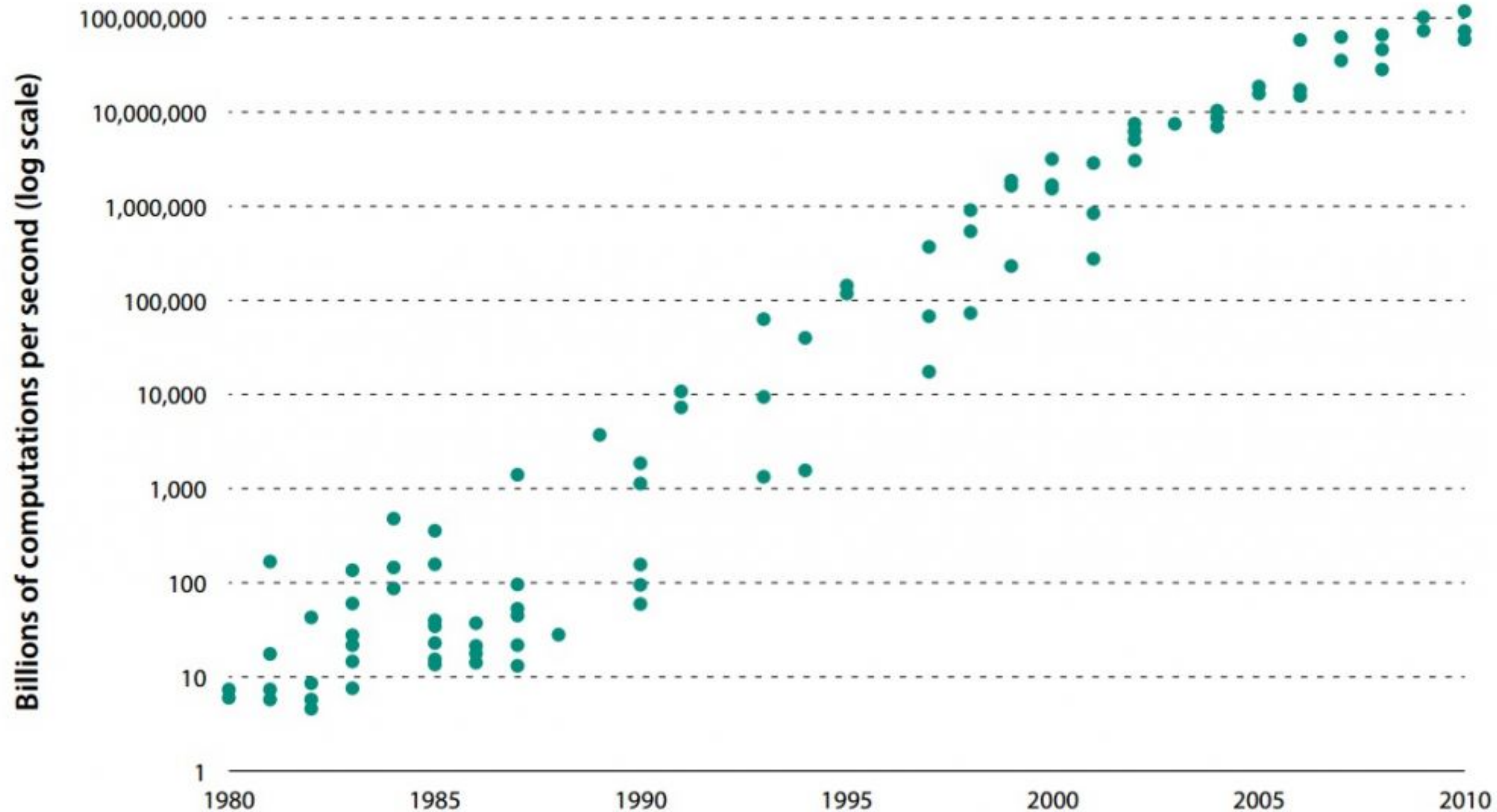
Billions of computations per second (log scale)

THE
HAMILTON
PROJECT
BROOKINGS

How does it work?

An example: machine learning

- Use math/stats to "learn" information directly from data **without relying on a predetermined equation**.

- Think "learning from experience" or "developing intuition"

- 3 turns into 9

- 4 turns into 16

- 5 turns into 25

- 6 turns into ?

Colour

-50   50

Roundness

-50   **50**

Hardness

-50   **50**

Label many of them

Make a training data table

Item	Colour	Globeness	Hardness	Type of fruit
1	-45	-20	44	Apple
2	-23	-33	41	Apple
3	2	36	-33	Banana
4	14	33	-31	Banana

Training

- Pick a learning algorithm suitable for the type of question you want to answer

- Algorithm goes through the table and tries to find the weight to give to each feature in order to correctly identify all the fruit in the table
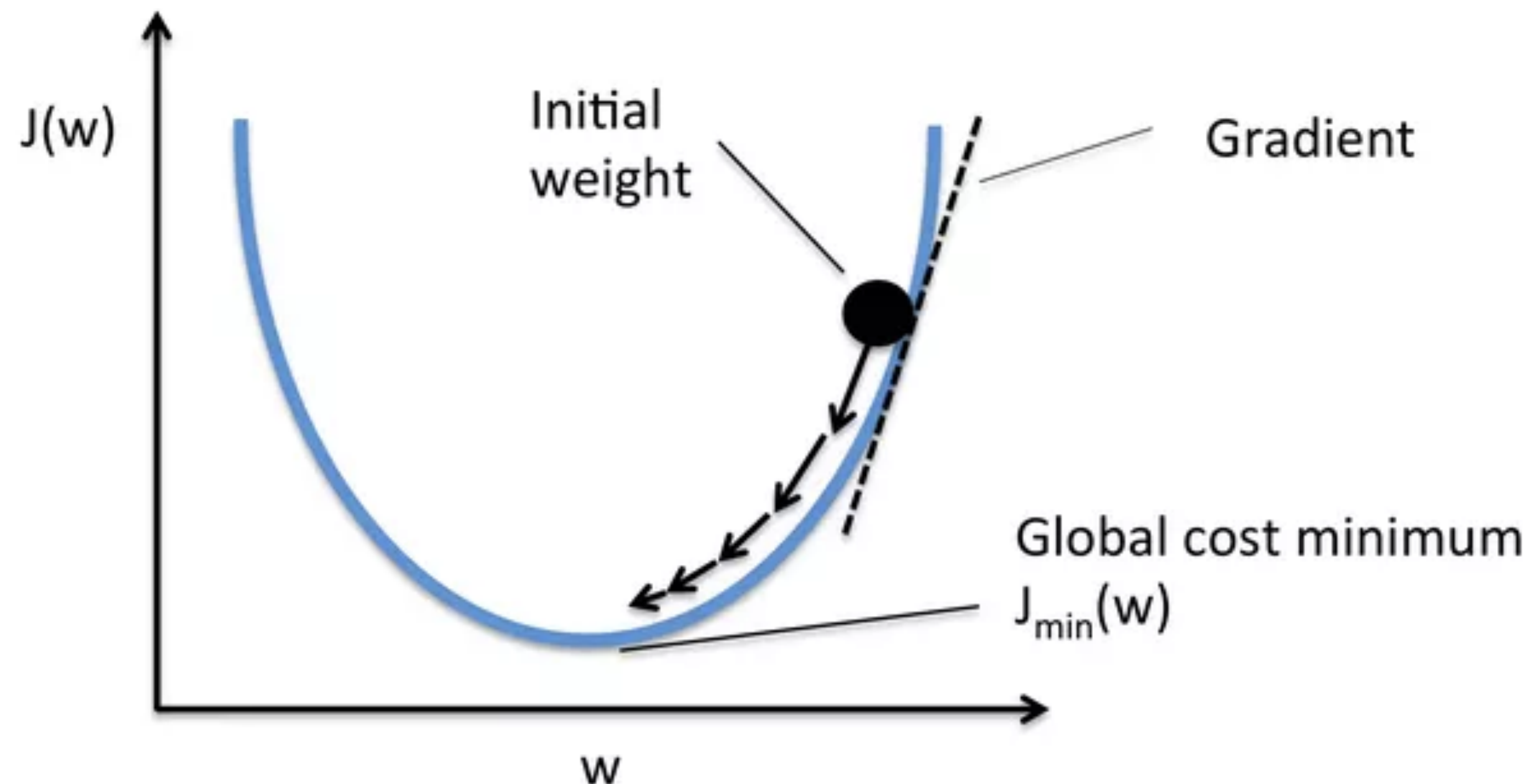
Prediction

- Show a new fruit to the machine

- The machine measures its features and calculates the weights based on the model

- Makes a prediction

Take aways

- AI is an important technology with paradigm change potential.

- Understanding AI is accessible for middle and high school students.

- We need to keep an eye on the societal issues: privacy, automated bias, etc.

Matthew B. Crawford

BESTSELLING AUTHOR OF SHOP CLASS AS SOULCRAFT

THE WORLD BEYOND YOUR HEAD

ON BECOMING AN INDIVIDUAL IN AN AGE OF DISTRACTION

"PEDRO DOMINGOS DEMYSTIFIES MACHINE LEARNING AND SHOWS HOW WONDROUS AND EXCITING THE FUTURE WILL BE." –WALTER ISAACSON

THE MASTER ALGORITHM

HOW THE QUEST FOR THE ULTIMATE LEARNING MACHINE WILL REMAKE OUR WORLD

PEDRO DOMINGOS

Trend 2

Digital assets

What is a "digital asset"?

- A digital representation of something of value

- Can be anything from "in game" credits to an interest in a venture or its revenues

- Ownership (usually) tracked in a blockchain

- Also described as "crypto", "coins" or "tokens"

Blockchain*

- An "append only" transaction log

- Copies of this log are maintained on many connected computers

- Blocks of transactions are linked together with digital signatures

- Deriving the signature for each block takes a lot of computing power and time and thus prevents someone from re-doing the blockchain
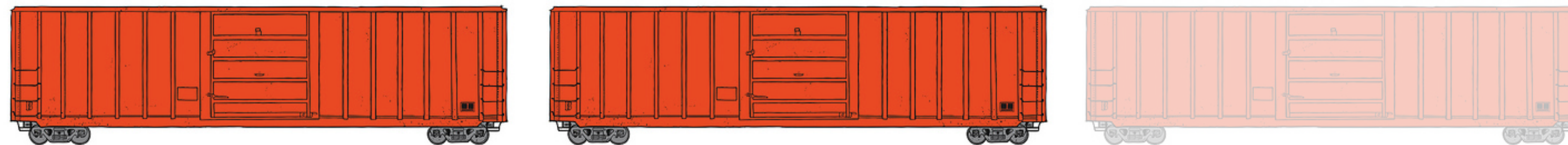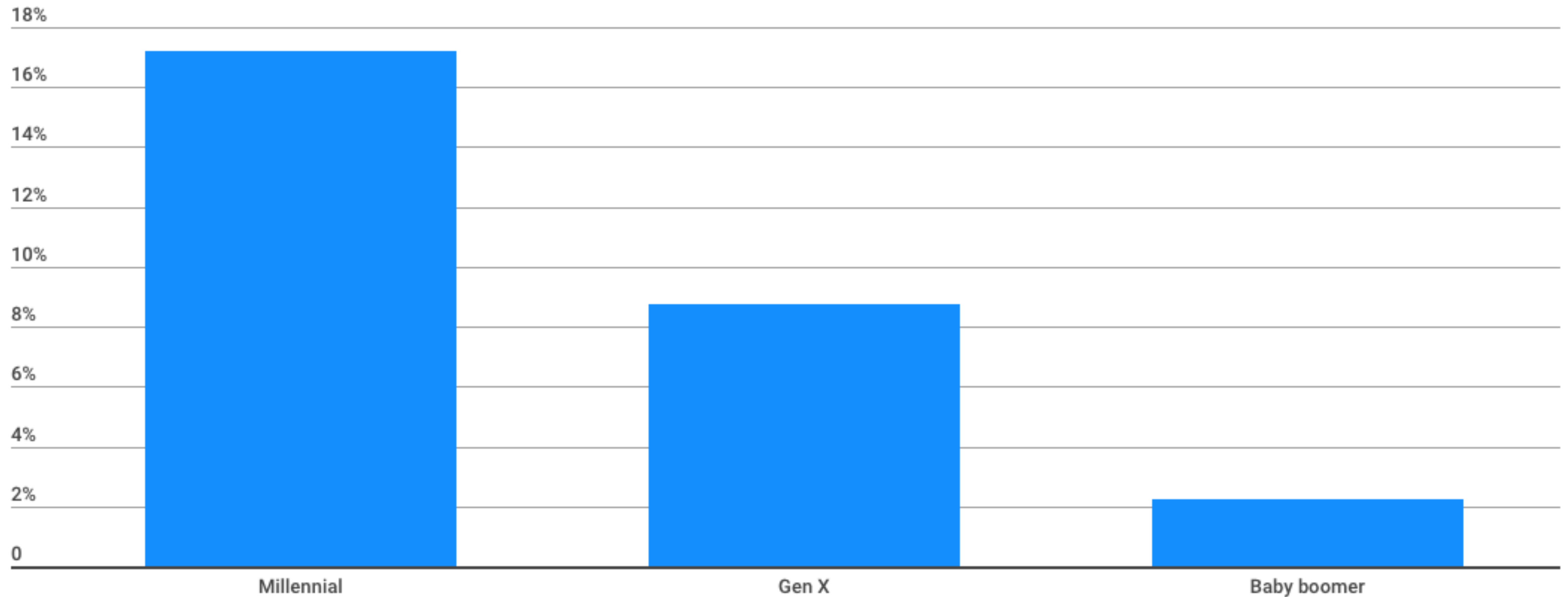
*more on this in August!

Who does <u>not</u> own crypto

The proportion of Americans who don't own cryptocurrency

92.05%

finder

And those that do, by generation
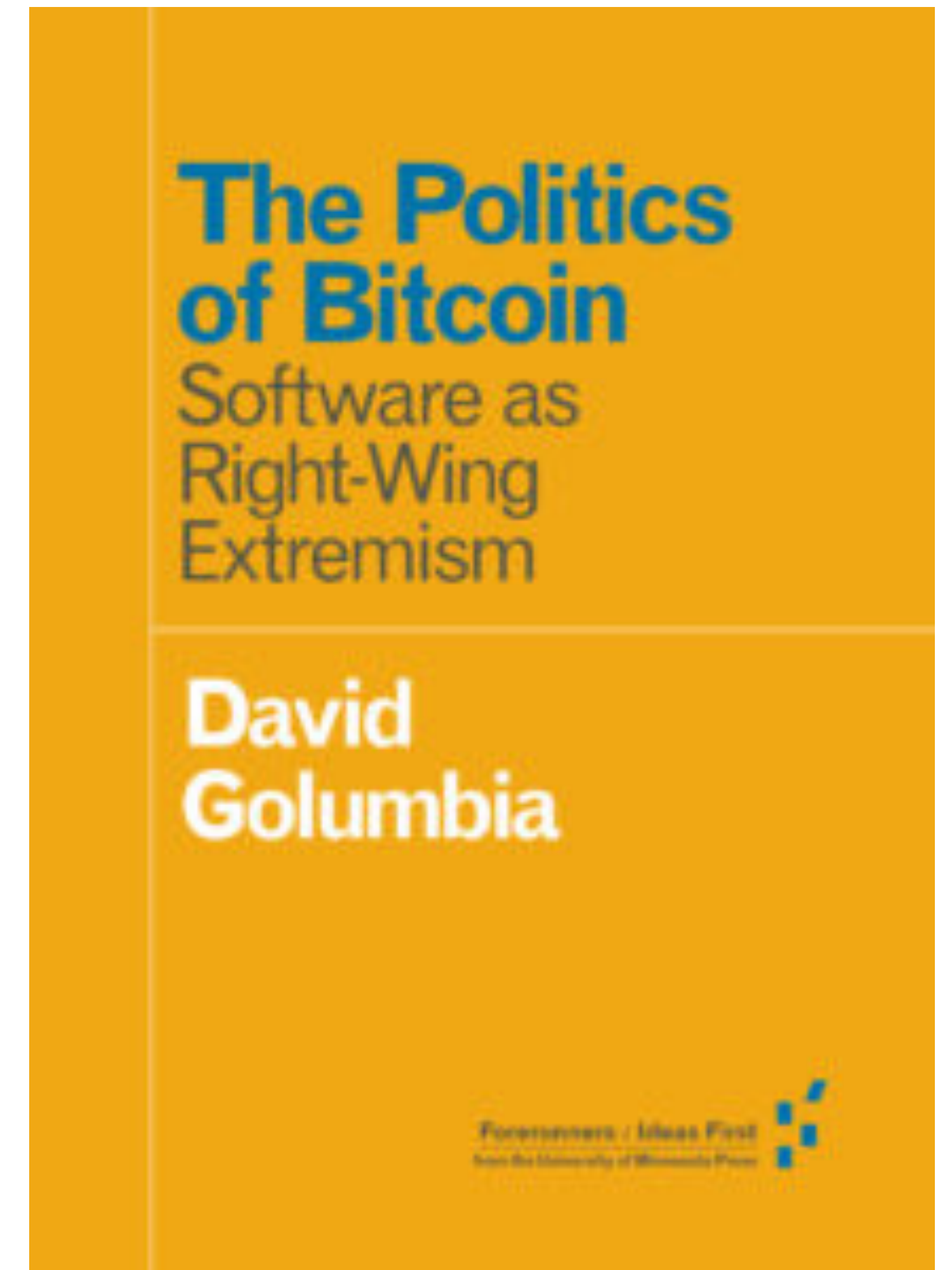
Some areas of proposed utilization

Currency - Privacy - General Purpose Platform - Distributed Storage - Payments Platform - Distributed Computation - Decentralized Web Hosting - On Chain Governance - Prediction Markets - IOT - Identity - Advertising - Content Creation - Asset Management - Time Stamping - Decentralized Exchange Platforms - Exchange Platforms - Lending Platforms - Crowdfunding Platforms
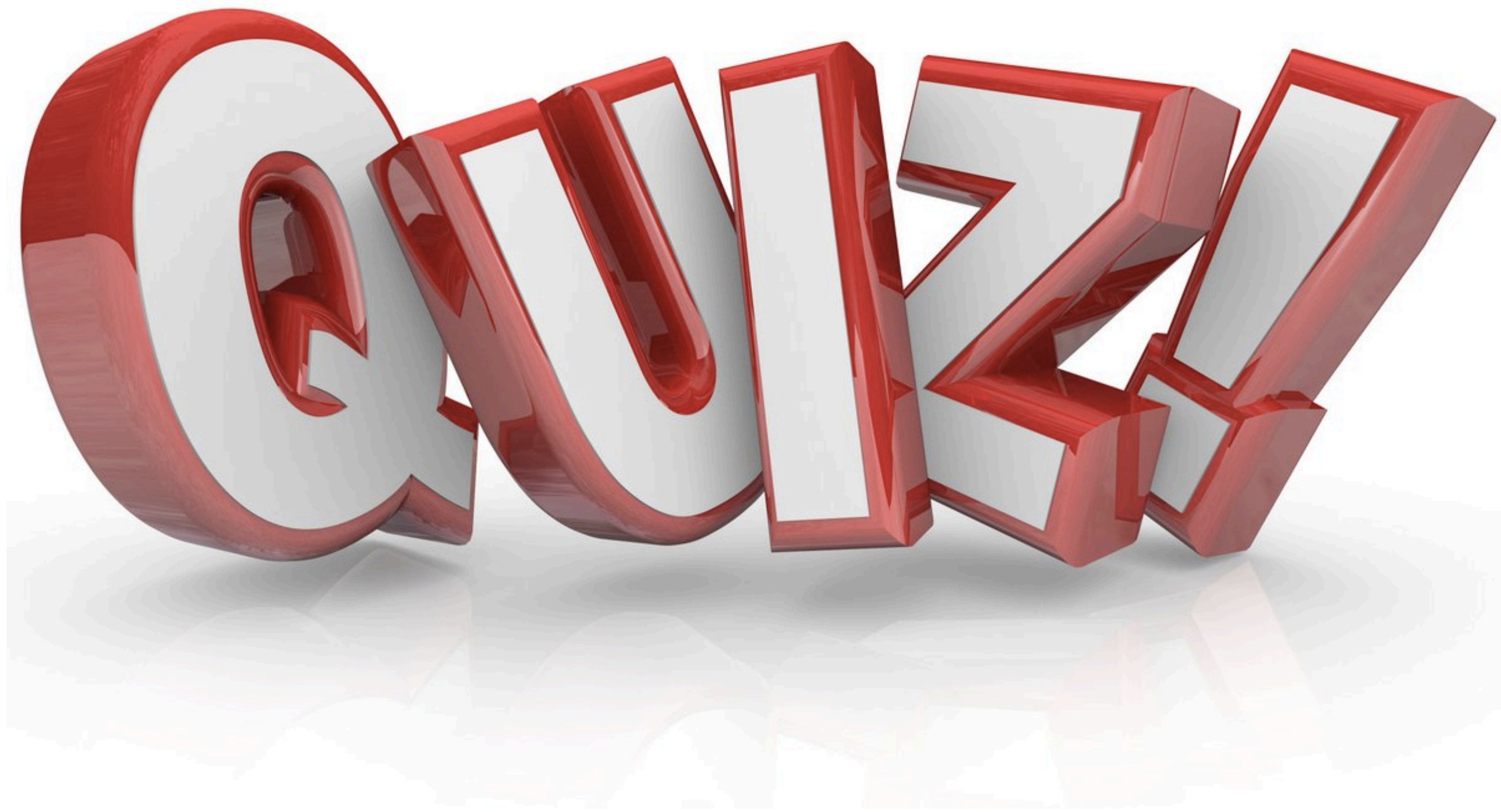
The roots of cryptocurrencies

"Cypherpunk" community - reaction to GFC 2008

Desire to:

- Remove government/establishment involvement and control

- Enable anonymous banking

- Reduce or eliminate fees

The Politics of Bitcoin
Software as Right-Wing Extremism

David Golumbia

Forerunners / Ideas First
from the University of Minnesota Press

QUIZ!

3 January 2009

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00000030    67 76 8F 61 7F C8 1B C3   88 8A 51 32 3A 9F B8 AA   gv.a.È.ÃˆŠQ2:Ÿ¸ª
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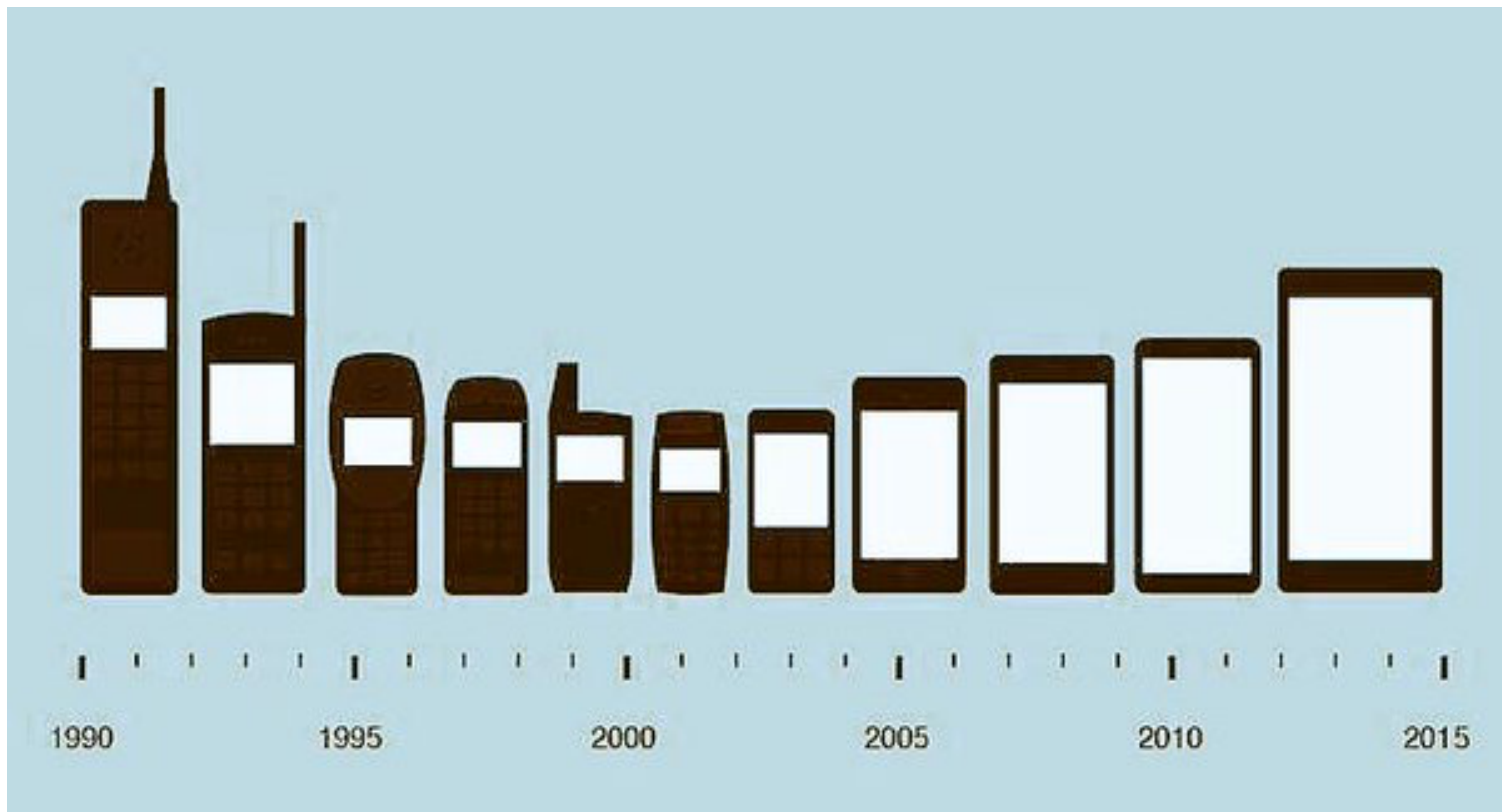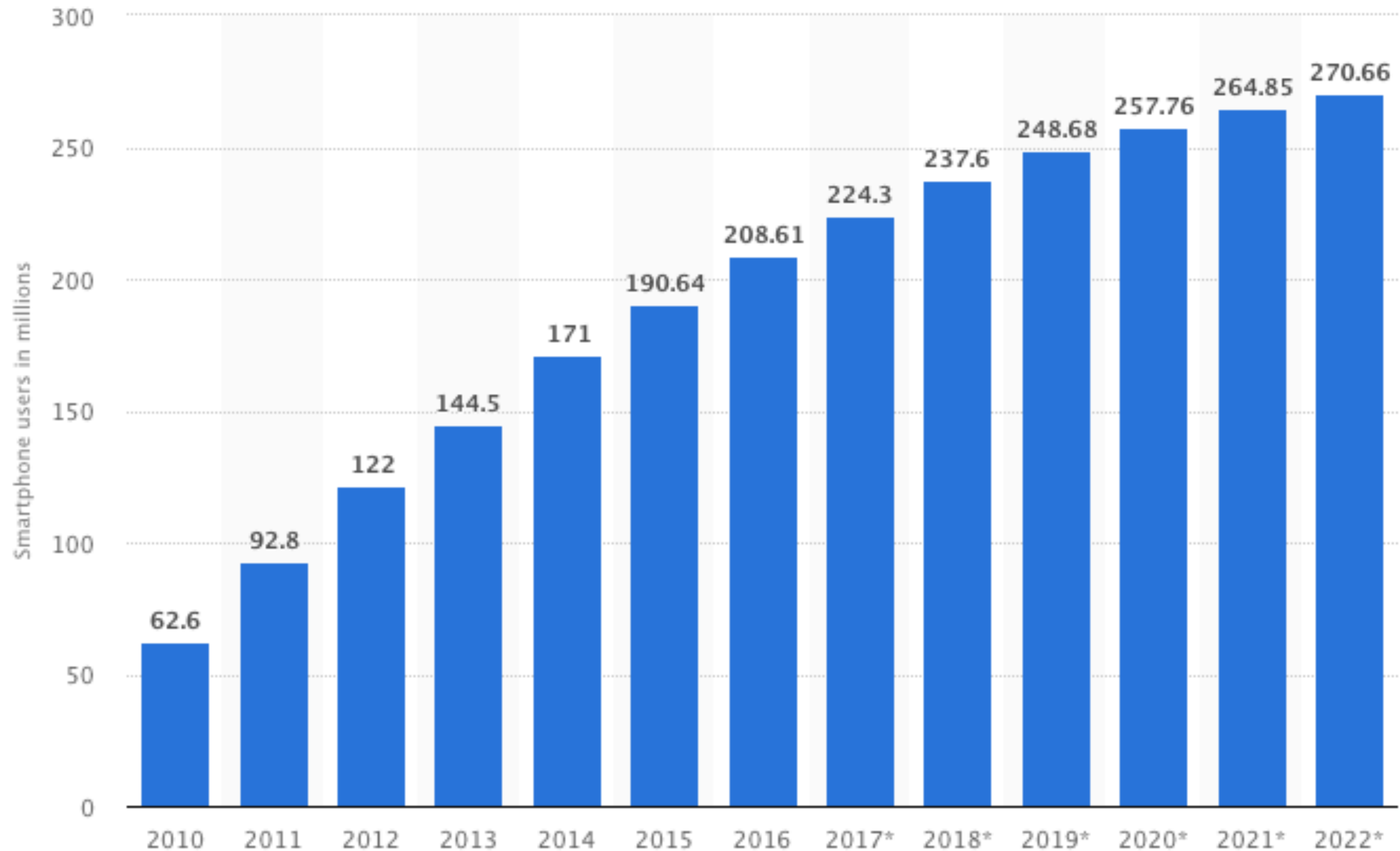
29 June 2007

Take aways

- A severely **over hyped** and immature technology. No revolutionary product (yet).

- The core concept of digitally storing value will mature and **evolve**.

- Rampant abuse and **fraud**.

Trend 3

Mobile computing ("digital centralization")

1990 1995 2000 2005 2010 2015

Number of smartphone users in the U.S.

StatCounter Global Stats

Internet Usage Worldwide
October 2009 – October 2016

Desktop   Mobile & Tablet

Desktop
48.7%

Mobile & Tablet
51.3%

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Oct 2009   Oct 2010   Oct 2011   Oct 2012   Oct 2013   Oct 2014   Oct 2015   Oct 2016

- Buying

- Banking

- Saving

- Talking

- Sharing

- Reading

- Remembering

- Relaxing

How important is your smartphone?

According to the participants who took part in this survey conducted by the Bank of America, they couldn't last a day without their smartphones.

91% say that their smartphone is very important and for 60% it is even more important than coffee.

For 96% of Millenials (people aged 18-24) the smartphone is very important and for 93% it is definitely more important than deodorant and for 93% more then the toothbrush.

We check our mobile devices every 6.5 minutes

So what is the best way to reach people? Through their mobile devices.

Anna Akbari Ph.D.

Startup Your Life

🐦 in

Why Your Smartphone Is Destroying Your Life

And what you can do about it.

Posted Jan 30, 2018

f **SHARE**   🐦 **TWEET**   ✉ **EMAIL**   ⌁ **MORE**

Source: Anna Blazic Pavlovic / Dollar Photo Club

Today I'm psyched to address an issue that plagues us all. It excites me so much, it even rivals karaoke on my personal passion scale.

But first, a question for you: **Would you like to be smarter, more empathetic, and have better relationships?** The majority of you would probably say yes. What if I told you you could improve all those things for free, with just one

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In a growing text message con, scammers are claiming to offer a reimbursement from NB Power and other companies in an effort to get fast cash. Please don't click on the link; report it to the Canada Anti Fraud Centre bit.ly/2y1a98n

Text Message
Today 8:10 PM

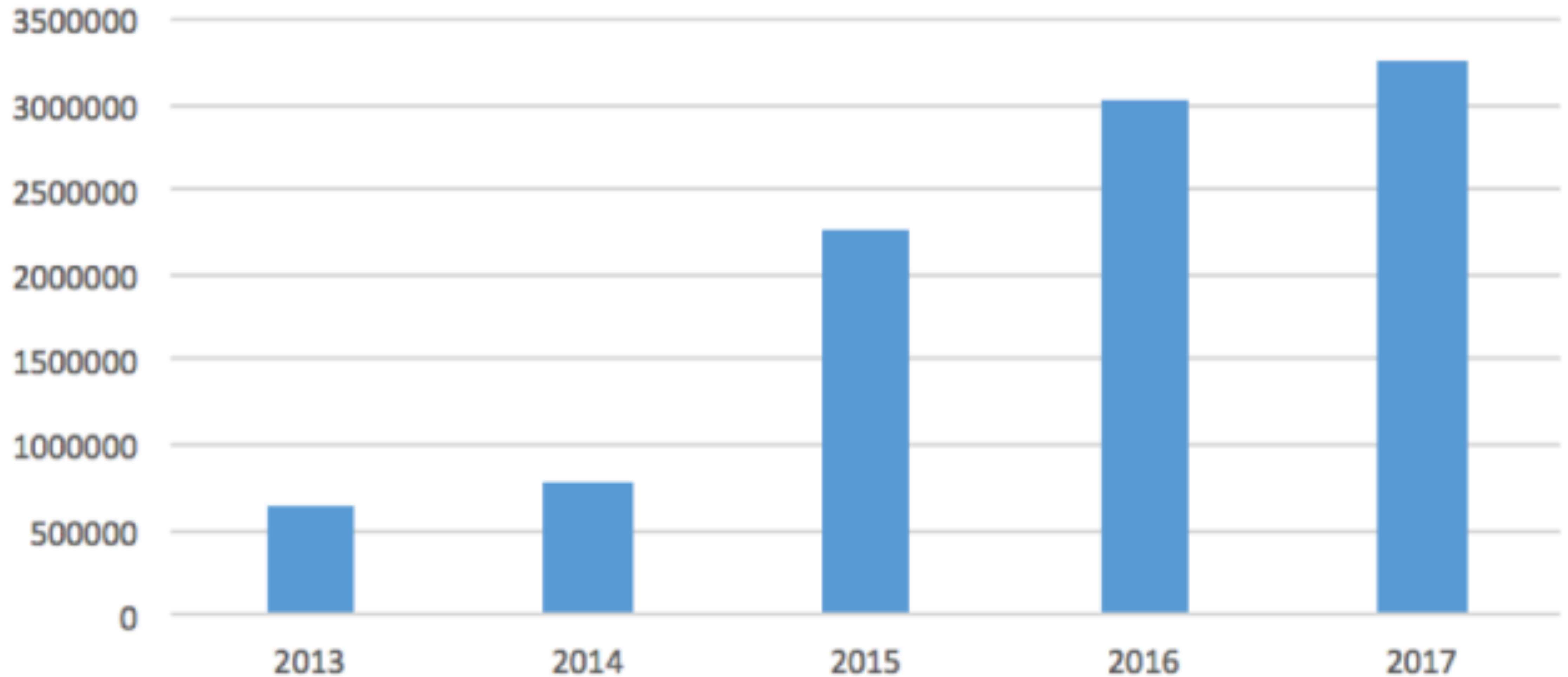INTERAC: NB Power sent you funds. Visit: www.nbfunds.cash

💬   ↻ 14   ♡ 5   ⬆

Android malware

https://nakedsecurity.sophos.com/2017/11/07/2018-malware-forecast-the-onward-march-of-android-malware/

Take aways

- Social media now mediated primarily via mobile devices.

- Share-ability is currency. "Follow" and "like" curation drive an echo chamber effect.

- Mobile is increasingly the platform for opinion and consumer decision making inputs (rather than person to person contact).
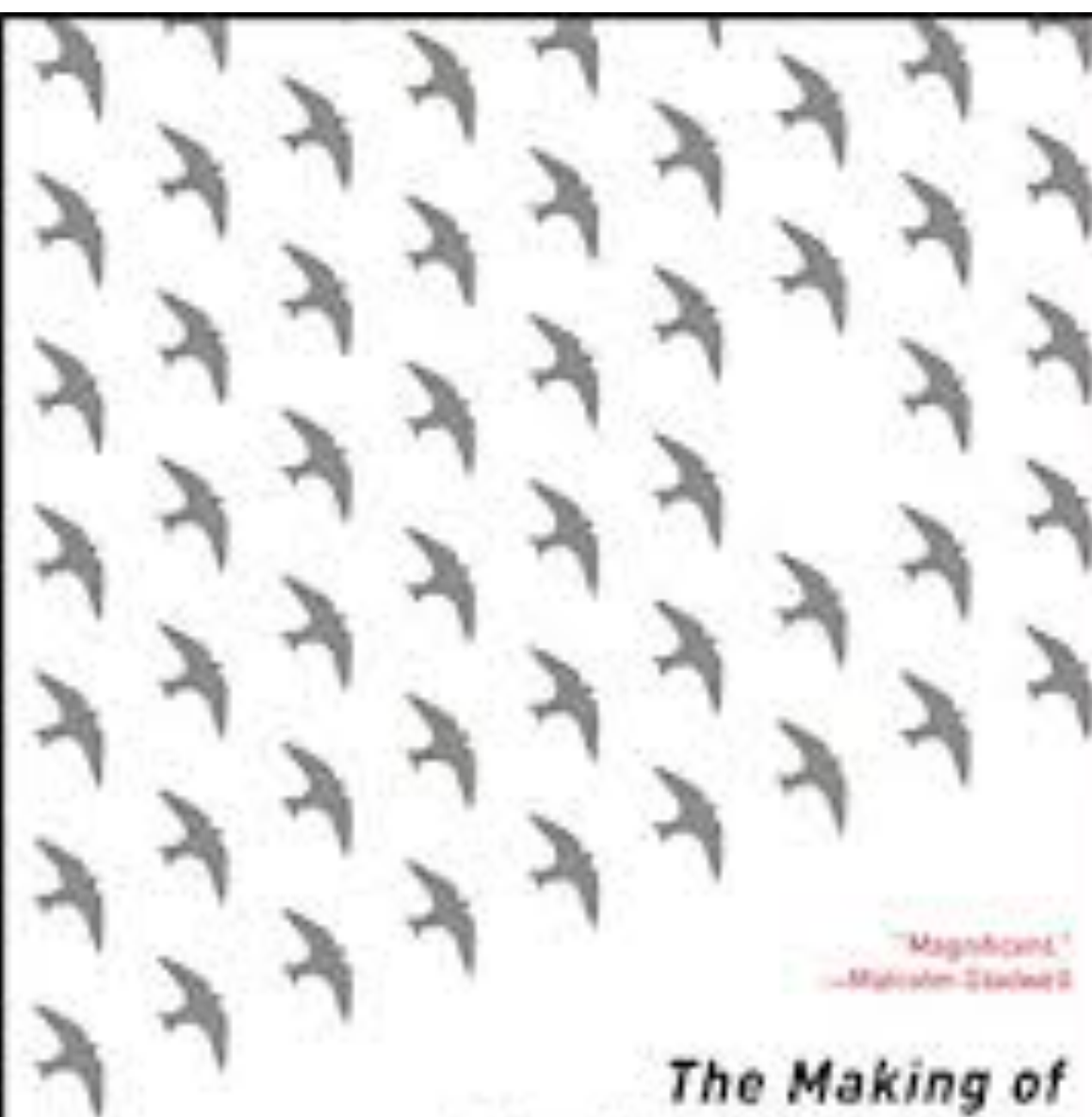
Action items

- Question and research. A healthy skepticism is a good thing!

- Develop a "deep" skill (sports, music, physical hobby).

- Read real books.

THINKING, FAST AND SLOW

DANIEL KAHNEMAN

WINNER OF THE NOBEL PRIZE IN ECONOMICS
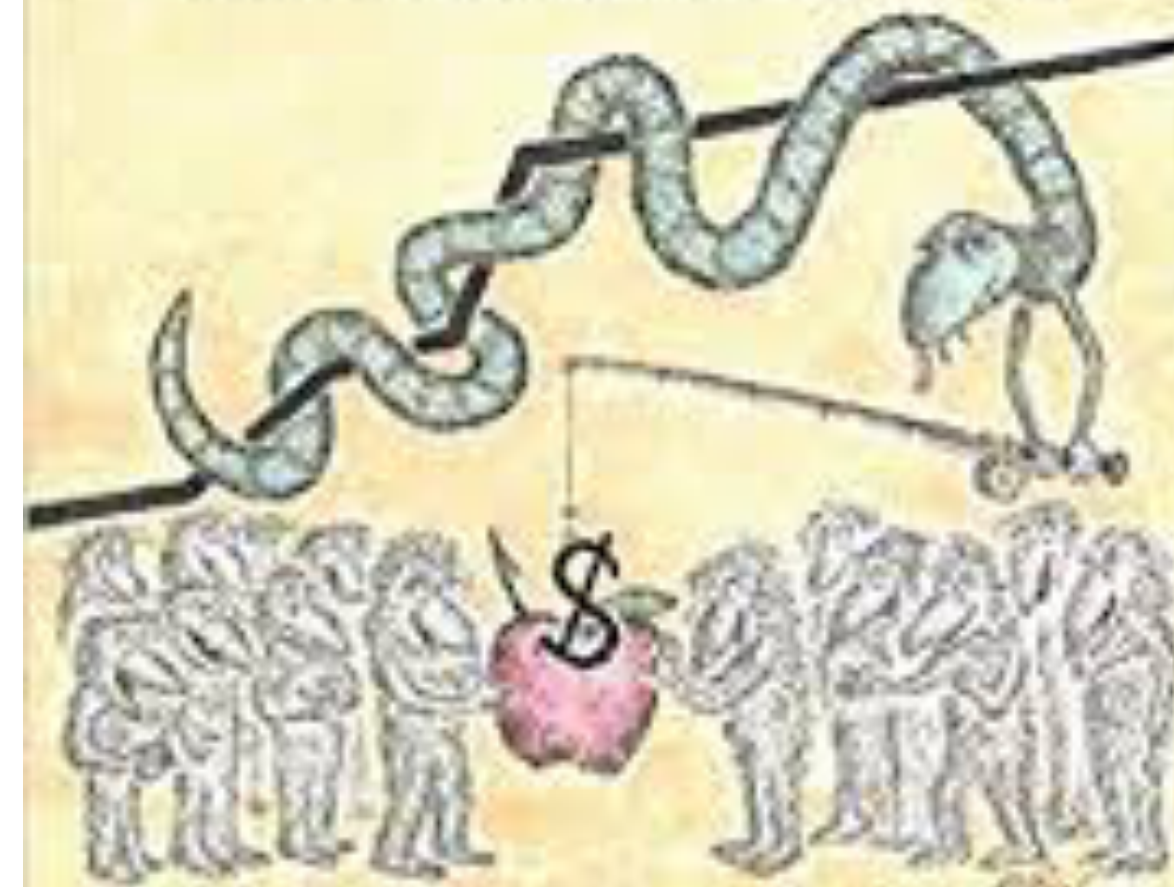

The Making of Behavioral Economics

"Magnificent."
—Malcolm Gladwell

MISBEHAVING

Richard H. Thaler

Best-selling coauthor of *Nudge*

PHISHING FOR PHOOLS

The ECONOMICS of MANIPULATION & DECEPTION

$

GEORGE A. AKERLOF
AND
ROBERT J. SHILLER

'A new way of thinking' Telegraph

INSIDE THE NUDGE UNIT

HOW SMALL CHANGES CAN MAKE A BIG DIFFERENCE

DAVID HALPERN

Foreword by Richard H Thaler co-author of *Nudge*

Thank you!

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https://www.linkedin.com/in/jakevanderlaan/