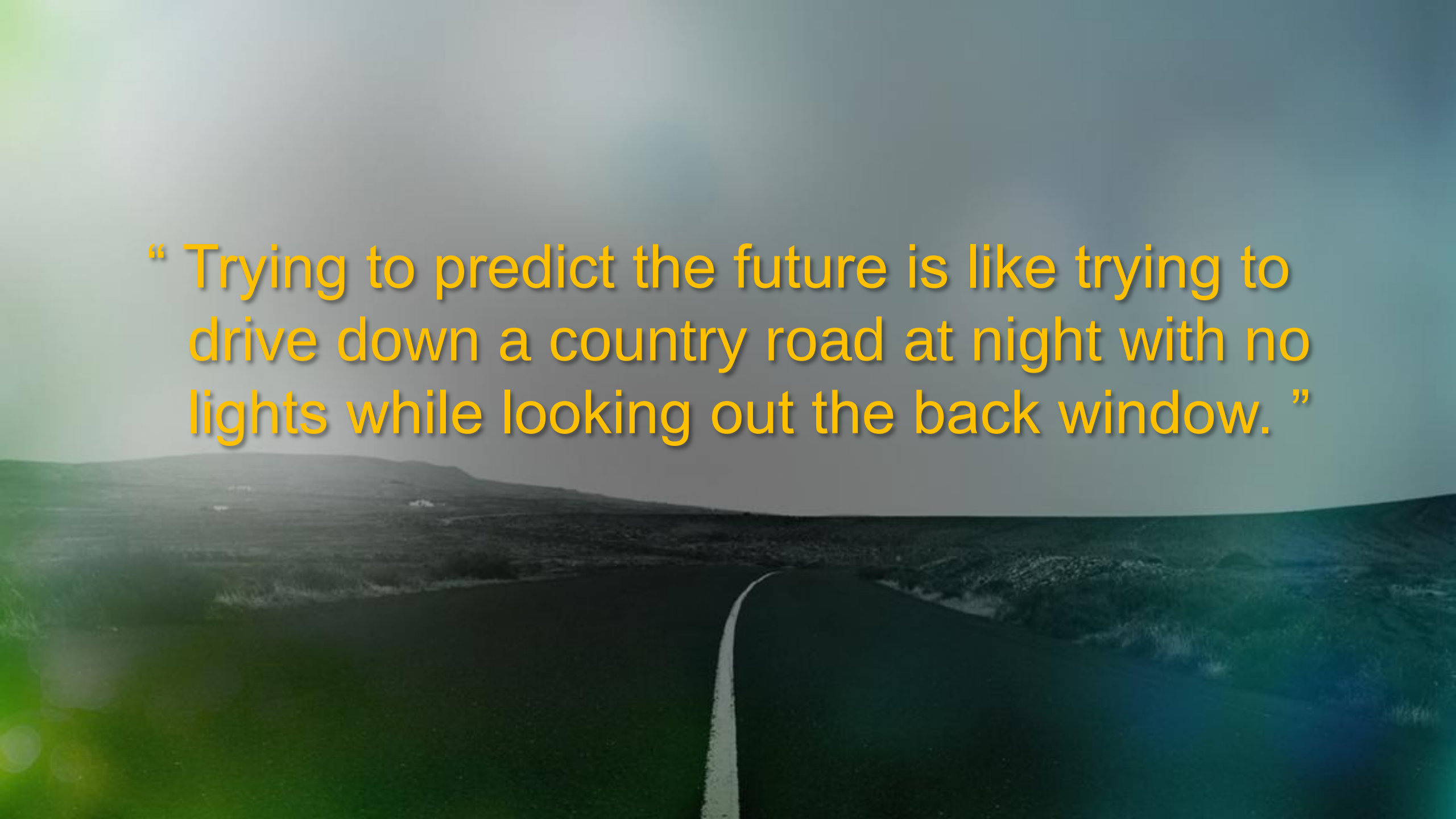
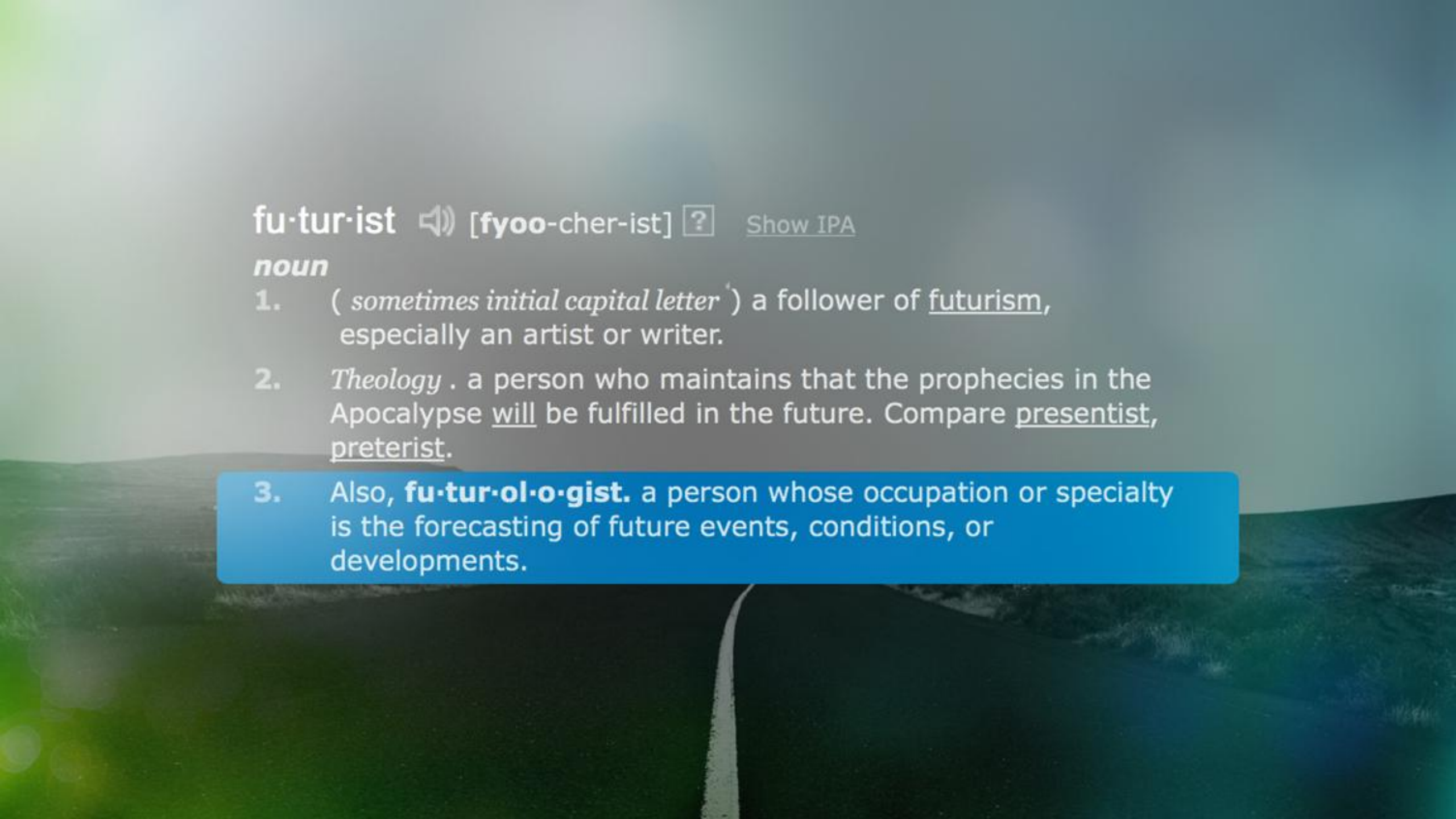
What Drives the Future?

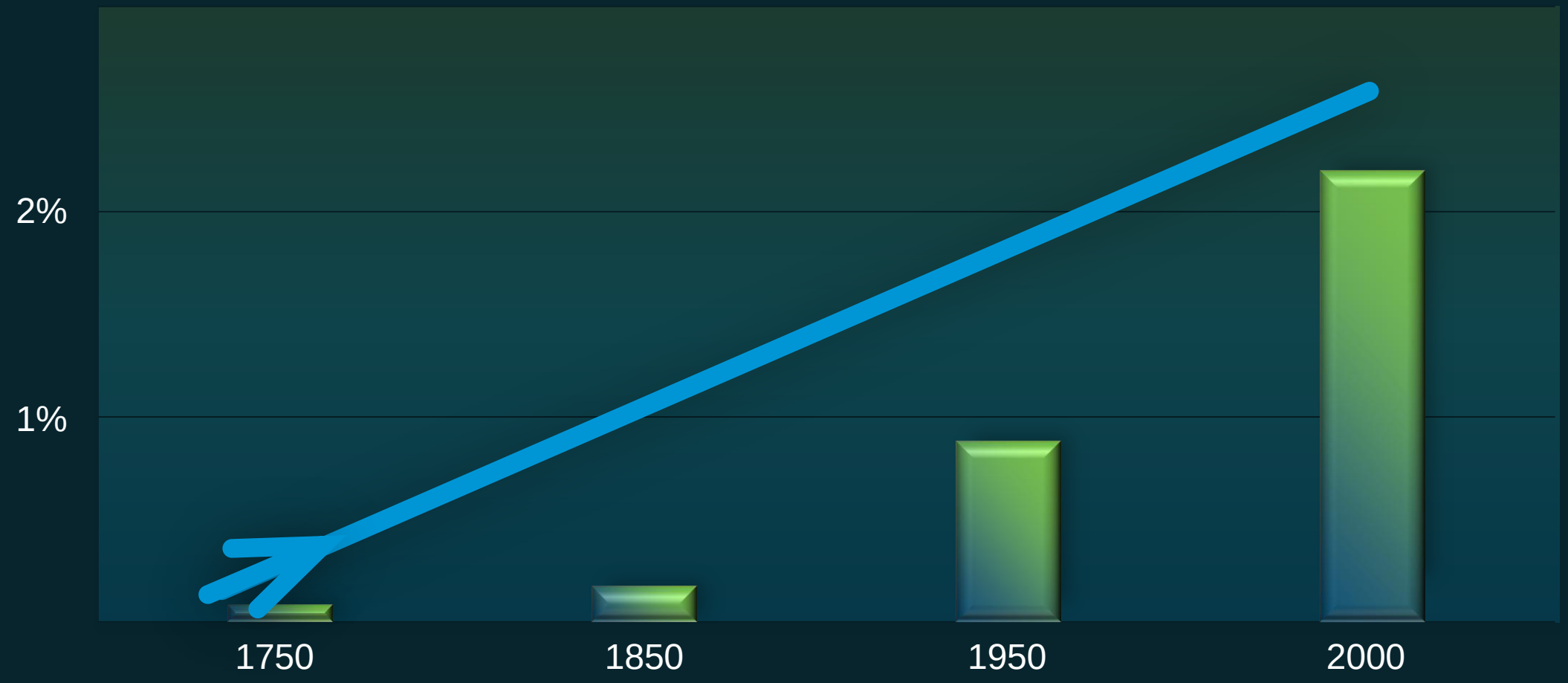
Howard Charney
Cisco Expo KSA

5 December 2011


“ Trying to predict the future is like trying to drive down a country road at night with no lights while looking out the back window. ”


fu·tur·ist [fyoo-cher-ist] Show IPA
noun
1. (sometimes initial capital letter) a follower of futurism, especially an artist or writer.
2. Theology . a person who maintains that the prophecies in the Apocalypse will be fulfilled in the future. Compare presentist, preterist.
3. Also, fu·tur·ol·o·gist. a person whose occupation or specialty is the forecasting of future events, conditions, or developments.

GDP Per Capita Spiked After Industrial Revolution



Carlota Perez Model

Industrial Revolution

1771

Age of Steam and Railways

1830

Age of Steel

1875

Age of Oil and the Automobile

1908

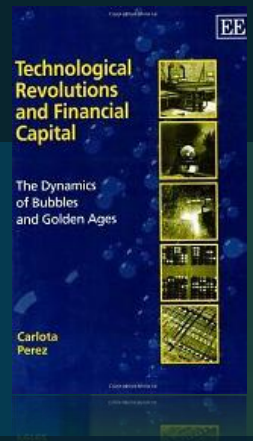
Age of IT and the Internet

1971

2011

2030?

The Five Great Technology Revolutions of “Modern Times”



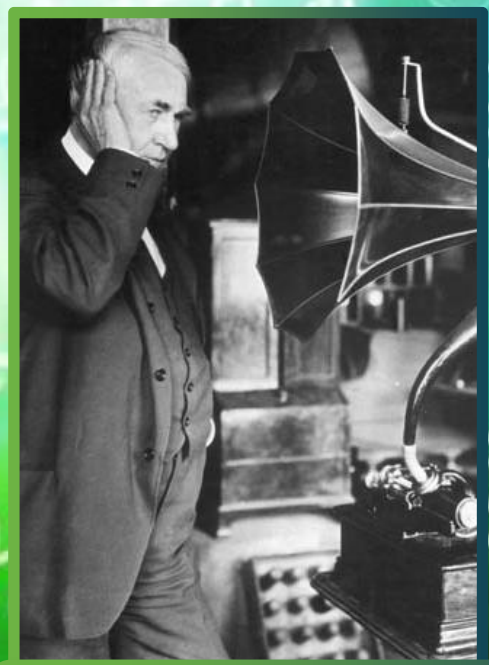
Every Aspect Being Transformed

Paradigm Shift

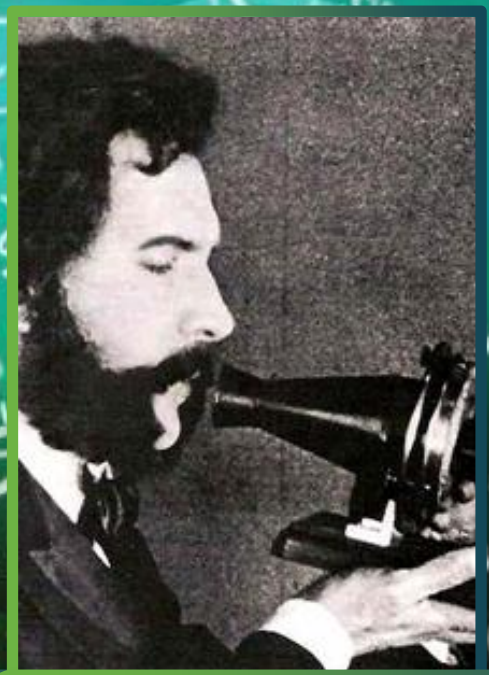
"one conceptual world view is replaced by another."

Thomas Kuhn,
University of California, Berkeley 1964

The Intel 4004 Put the IT Revolution in High Gear



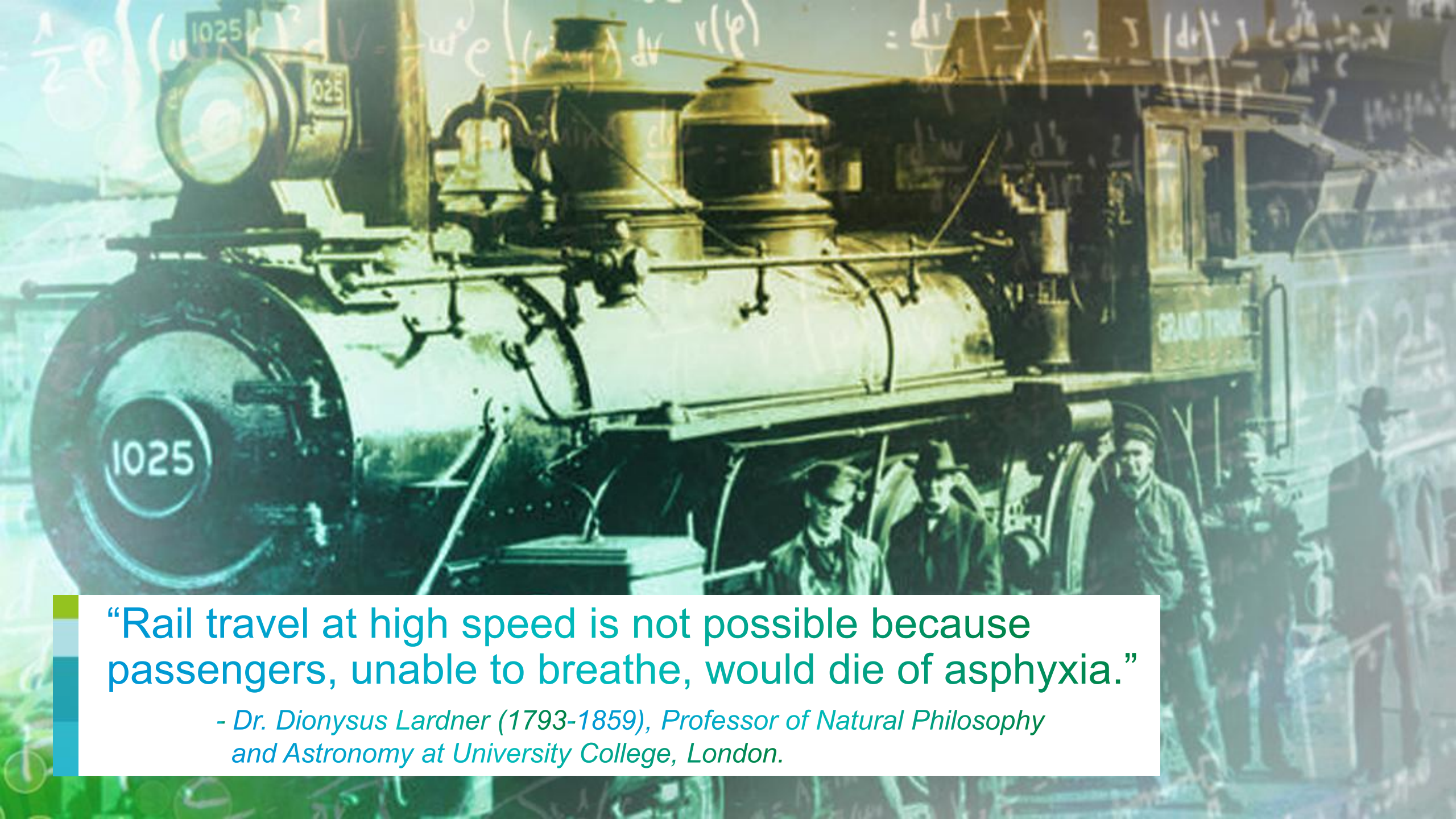
The Transistor



The Telegraph

The Telephone

The Programmable Microprocessor

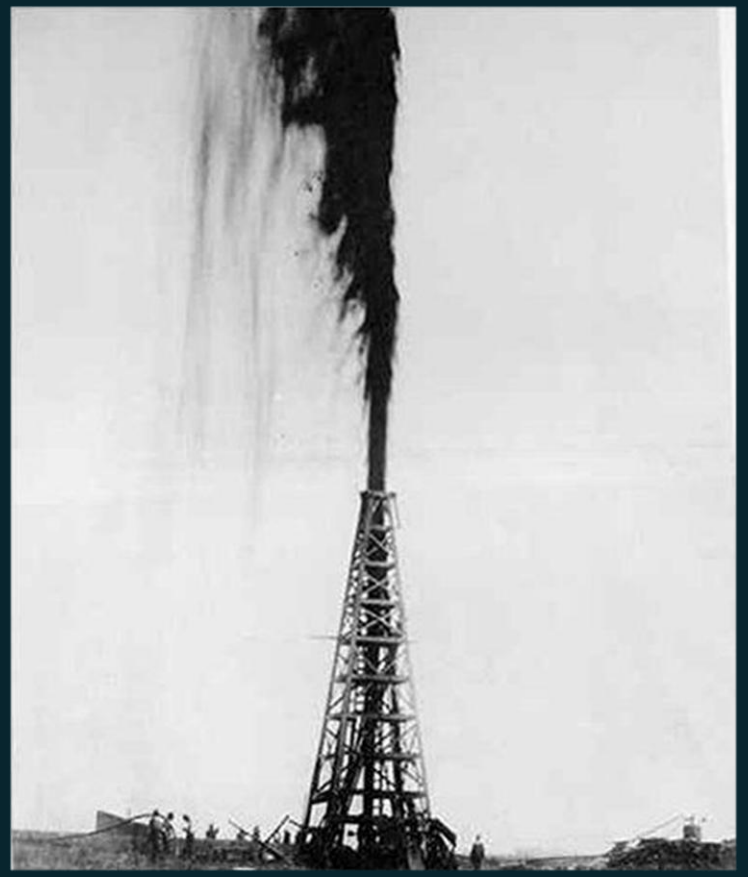


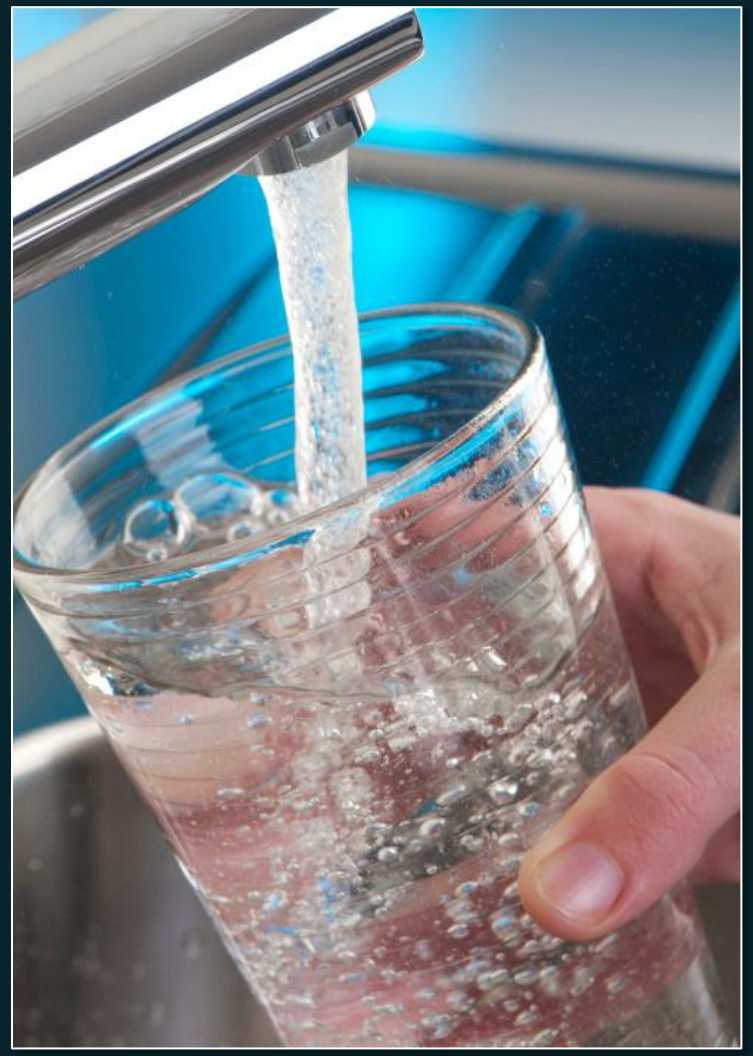
"Rail travel at high speed is not possible because passengers, unable to breathe, would die of asphyxia."

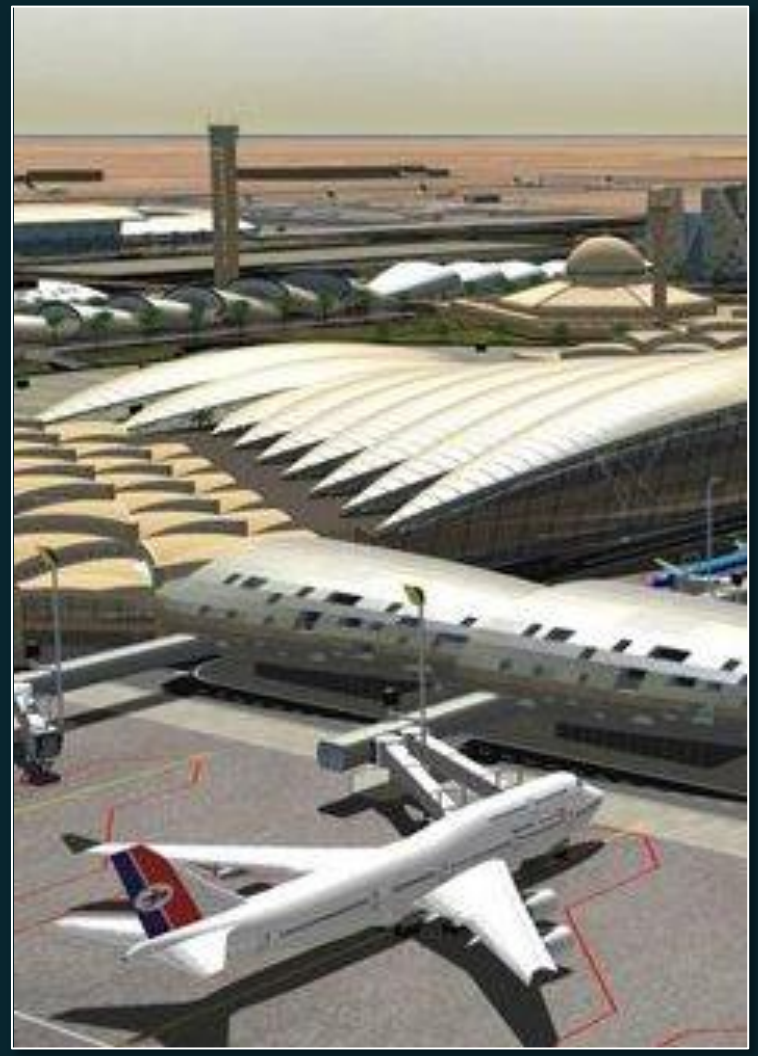
- Dr. Dionysus Lardner (1793-1859), Professor of Natural Philosophy and Astronomy at University College, London.

“The horse is here to stay but the automobile is only a novelty – a fad.”

“Drake’s Folly”

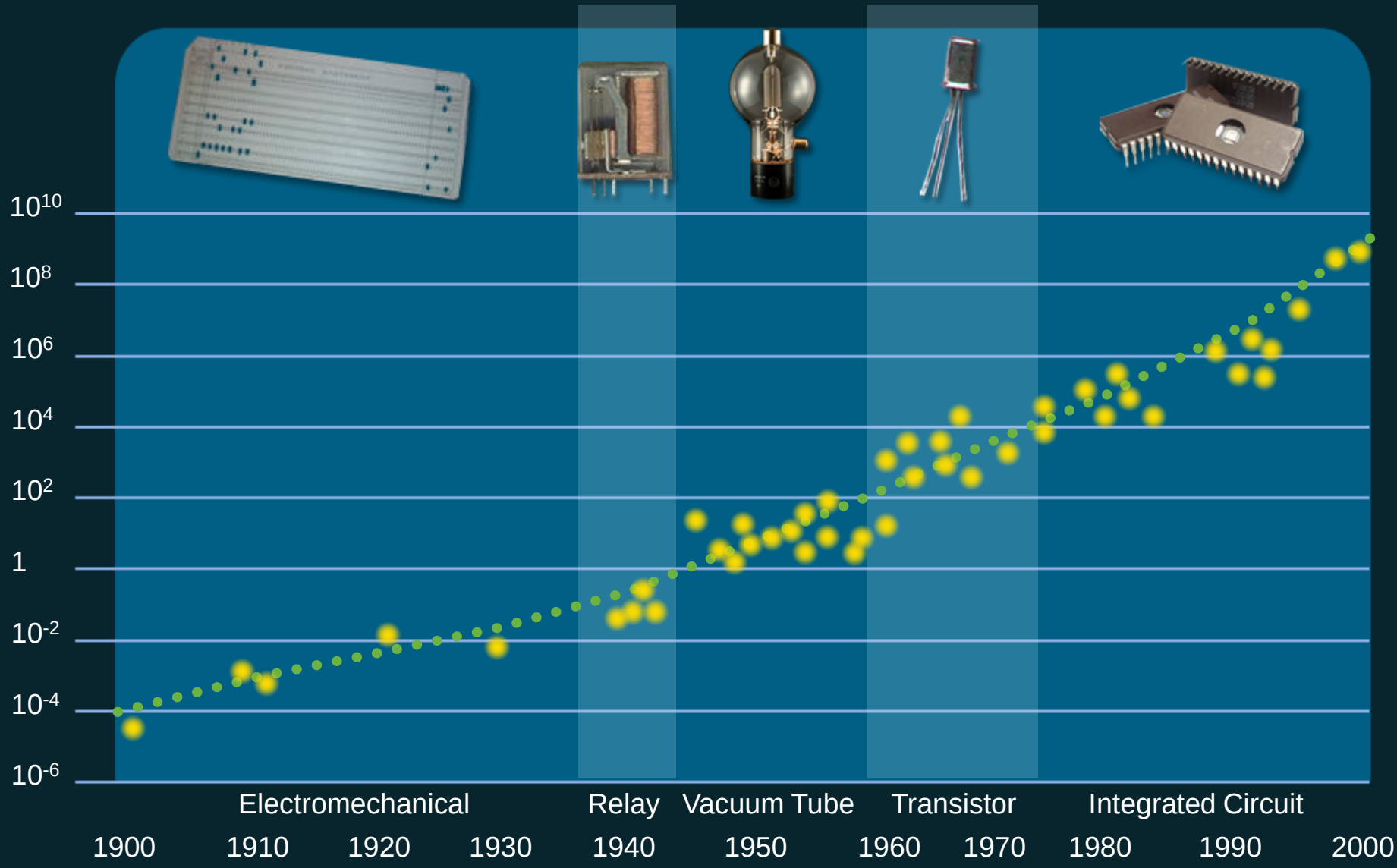






Humans have the unique ability to collaborate on projects that will be realized far into the future – and will transform society as we know it.

The Exponential Growth of Information Technology

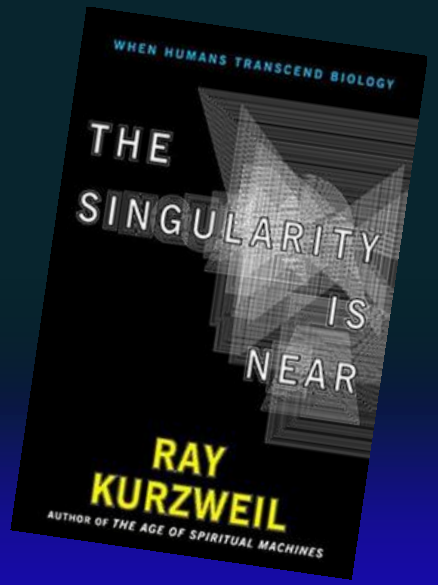


From *The Singularity Is Near*, by Ray Kurzweil

The Singularity

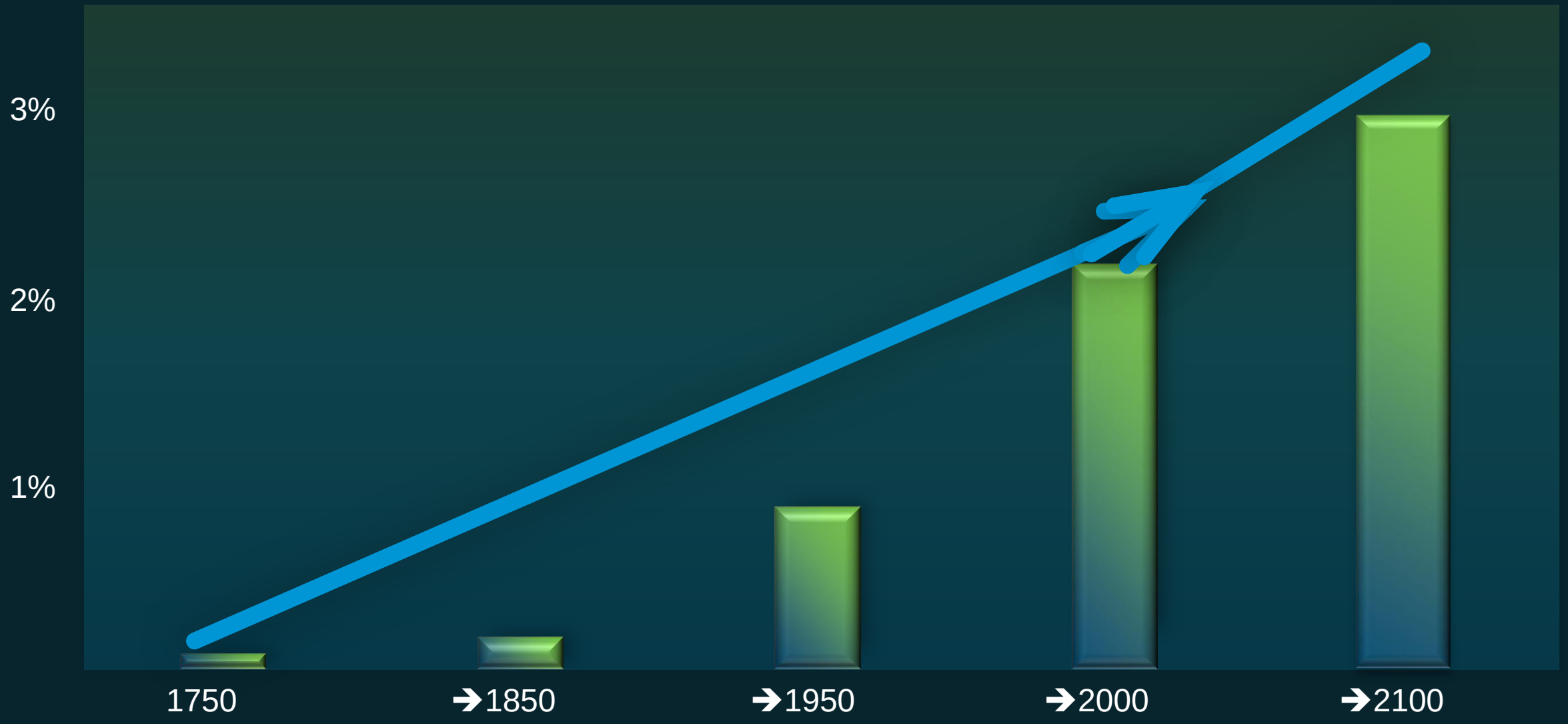
"What, then, is the Singularity? It's a future period during which the pace of technological change will be so rapid, its impact so deep, that human life will be irreversibly transformed."

– Ray Kurzweil




What can I help you with?

Exponential Growth Ahead?



OUR Ideas

OUR Innovations

OUR Creativity

IT is an Extension of Human Capabilities

More data was created during any 48-hour period last year than by ALL of humanity during the past 30-thousand years.

By 2020 it will be every *hour*

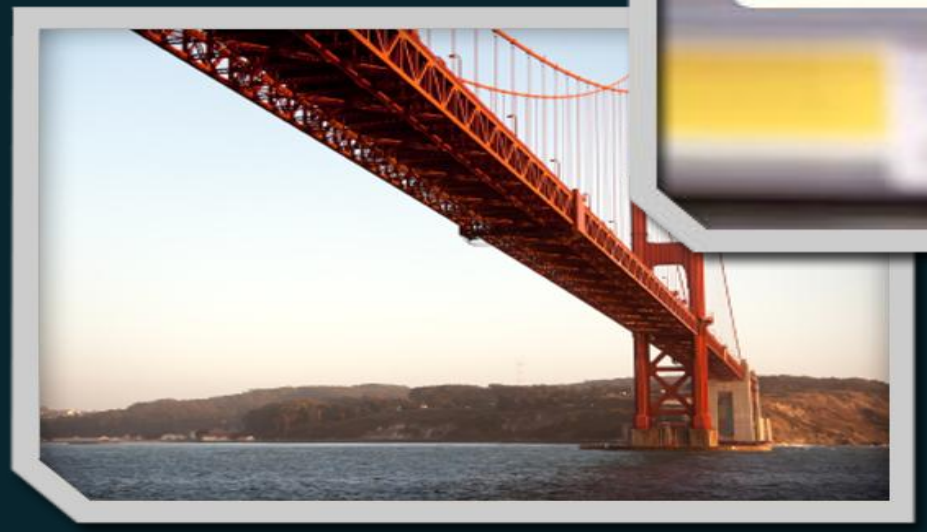
We Are Reaching a Tipping Point

… where *everything* is suffused with intelligence and communications

… and people *everywhere* have access to new capabilities


50 Billion Devices Connected to the Internet by 2012

The Smart and Connected World

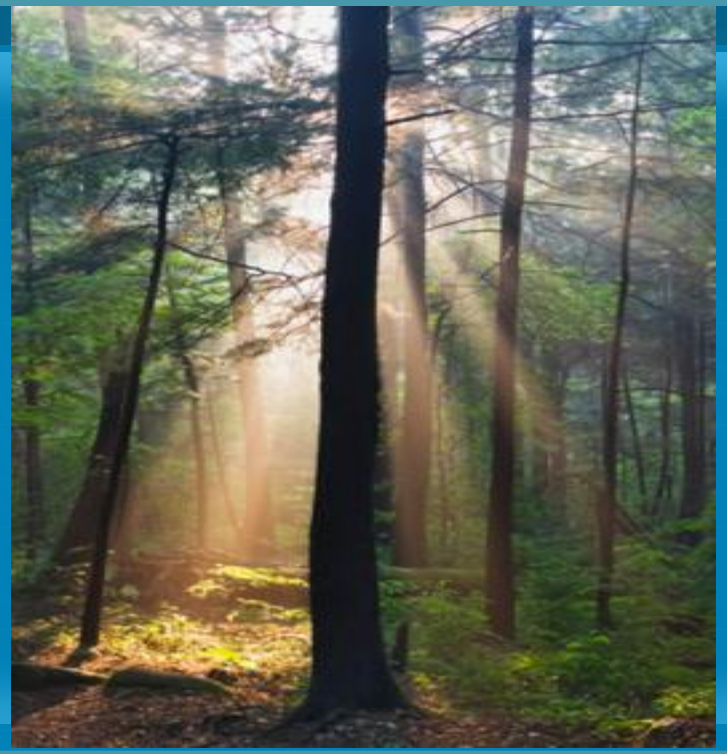


Keeping Track of Cattle in Kenya

RFID application tracks cattle, meets requirements of EU market

Small photos courtesy of Microsoft

Wireless Mesh Networks



Flexible, self-healing wireless mesh networks already monitor livestock, forests, and glaciers.

Smart and Connected

The Groundbreaking Aakash

India bought 100,000 of these tablets for US$48 from a firm in Canada and will resell them to Indian students for US$25

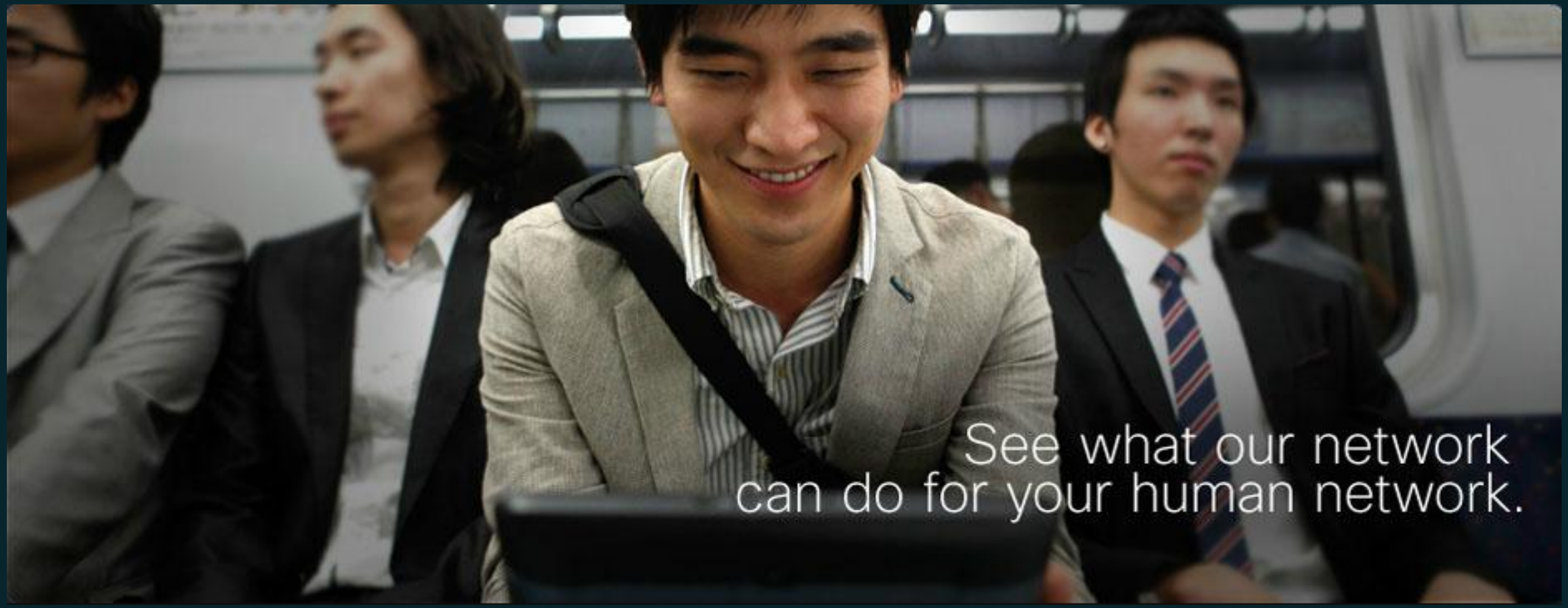
4 GB Memory = 33,000 times the first Apple Mac

The New Space Exploration

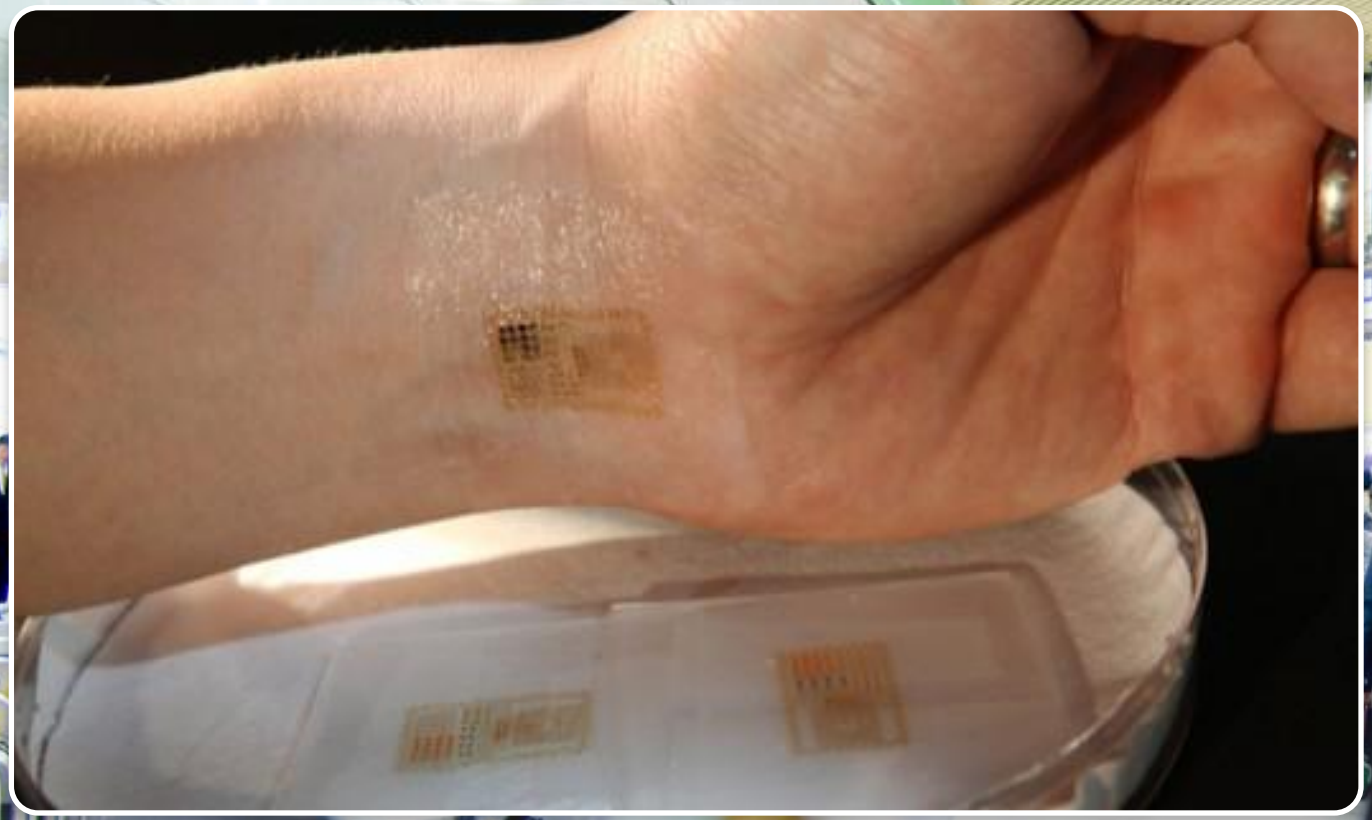
Off-the-shelf components, powerful computers, excellent network capabilities


Pervasive
Communications
is the REALLY new paradigm


spice
ONE TOUCH FM
Enhanced Bluetooth



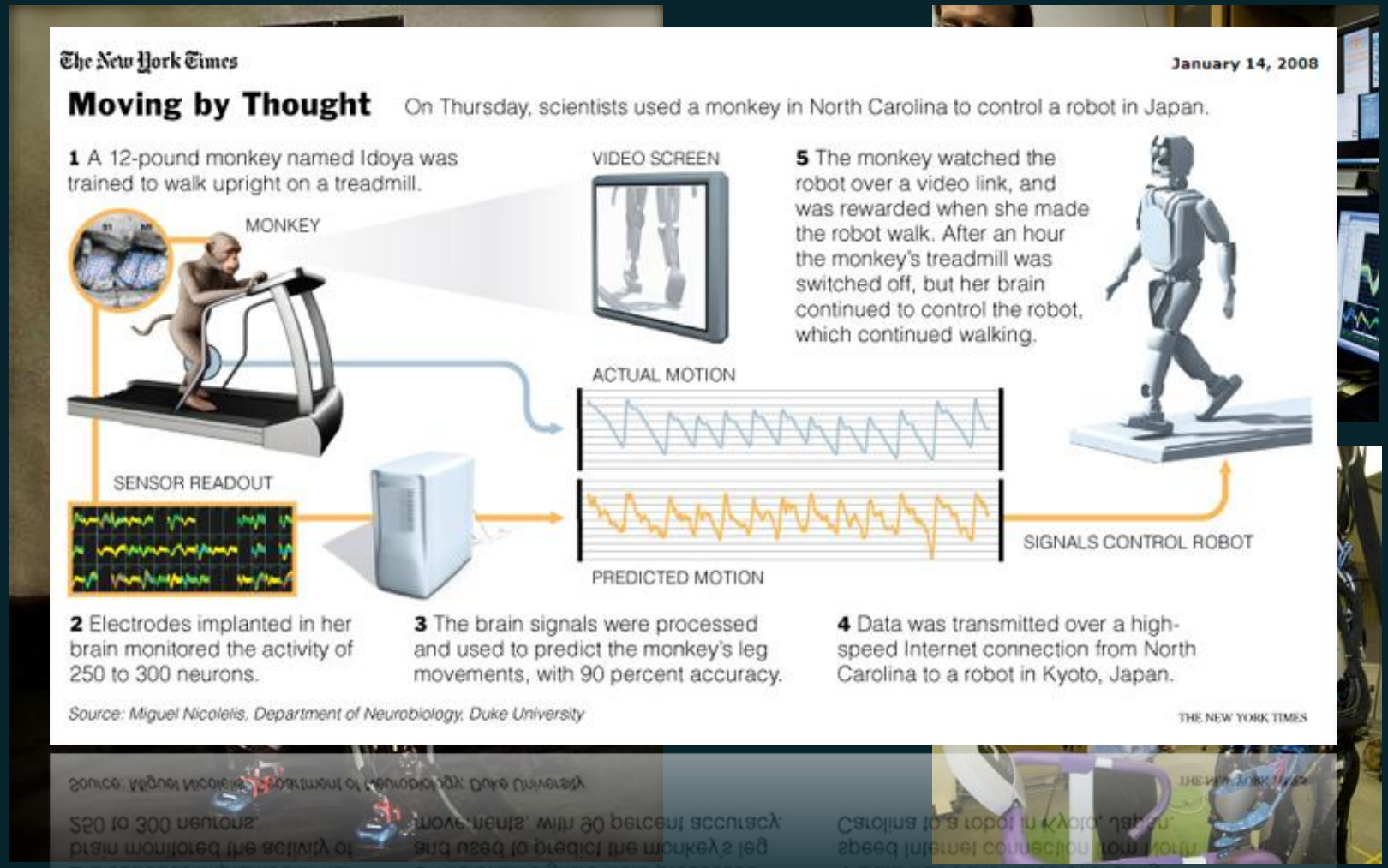
Queen’s University Belfast is working on “body-to-body” wireless networks



Next: wearable electronic patches…
flexible, ultra-thin, skin-like

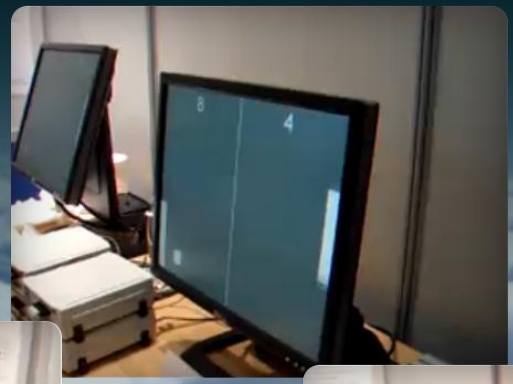
Human Machine Interfaces

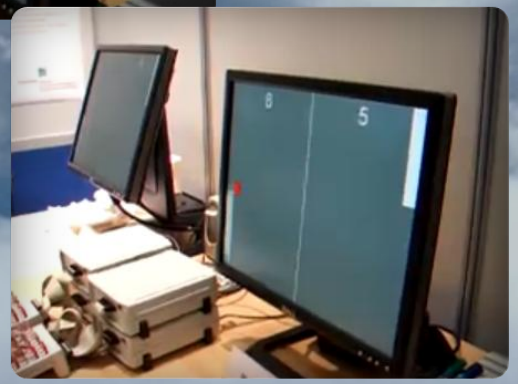
Computer-Aided Telepathy



Human Mind vs. Pinball Machine

A dream come true: Michael Tangermann flips those levers by just thinking about them at the Technical University of Berlin.





Berlin Brain Computer Interface

Every Tech Revolution Builds on the Ones Before

The Great Library of Alexandria

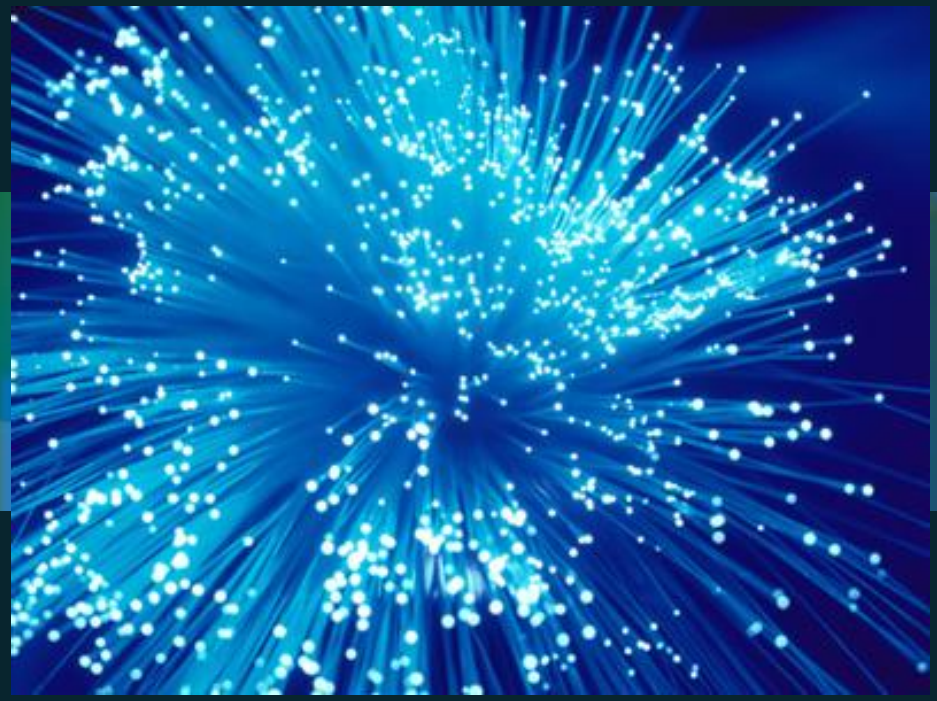
Damascus steel

Technological Change Is Exponential

During the 21st Century we may experience 20,000 years of progress

Broadband Is a Driver of Growth

A 10 percent increase in high-speed Internet access increases economic growth by 1.3 percent…



The World Bank
***Economic Impacts of Broadband*, June 2009**

A U.S. study has shown that the **increase** in a local economy was **10 times the cost** of installing broadband.

-- Importance of FTTP to Business Location, Strategiic Networks Group, 2007

The Benefits of Smart+Connected Communities

Over 20 years, a city of 5 million could experience…

City Revenues
+$15B

GDP Growth
9.5%

Energy Efficiency
+30%

New jobs
375,000

Source: Connecting Cities: Achieving Sustainability Through Innovation, Nicola Villa and Wolfgang Wagener, Cisco IBSG

The New Driver of Economies

Social Networking as a Powerful Economic Force

George Akerlof

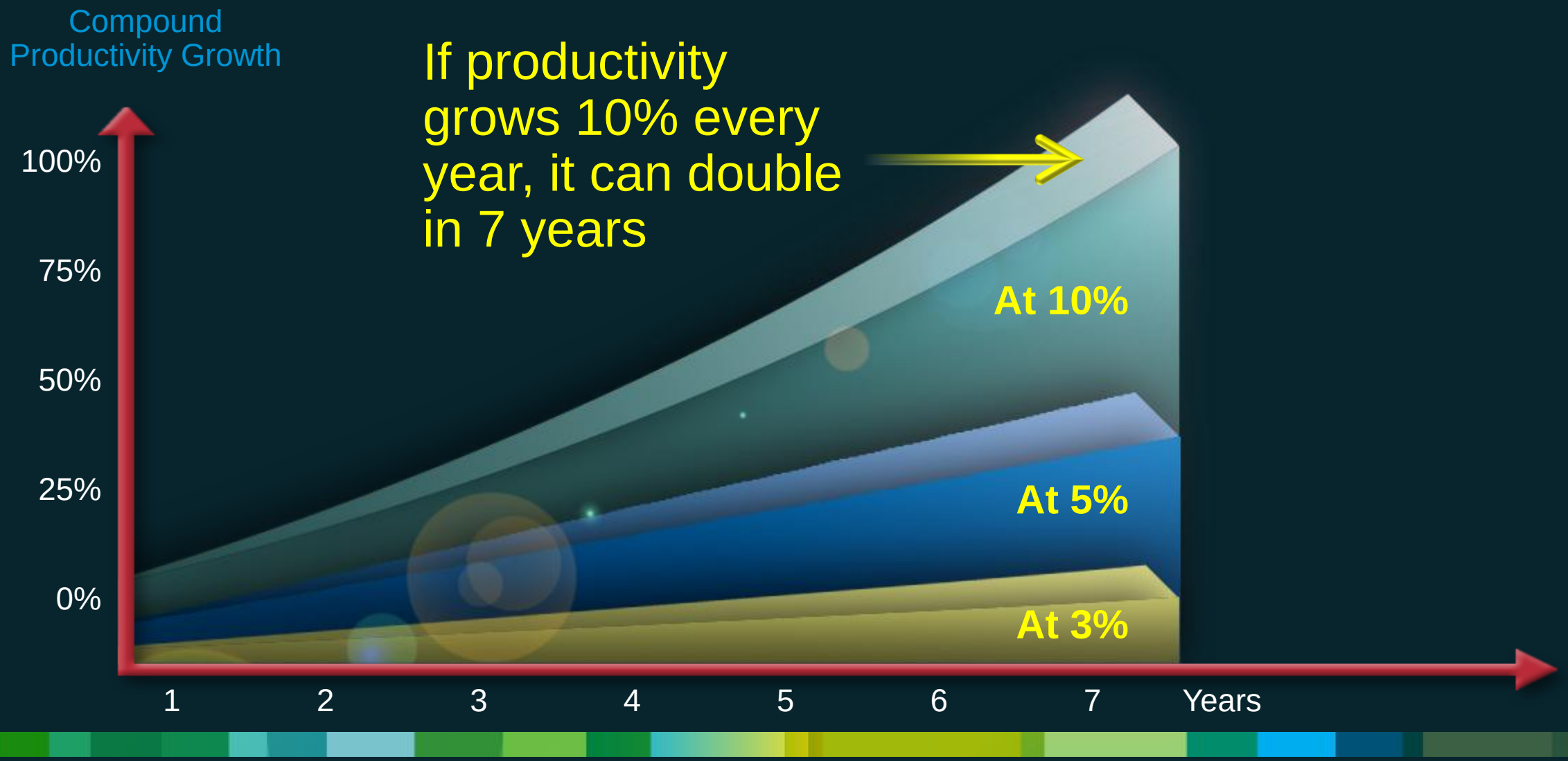
Robert J. Shiller

Changing Workforce Priorities

2 of 5 young employees would accept a lower-paying job with more social media flexibility & work mobility.

Cisco Connected World Technology Report

Seven Years… or 70 Years?



Why Productivity Matters

Rapid Productivity Gains Can Raise the Standard of Living for People Around the World

A man's REACH should exceed his GRASP, or what's a heaven for?

Charles Kettering

“We should all be concerned about the future because we will have to spend the rest of our lives there.”

Inventor of the spark plug, the automatic transmission, safety glass, quick-drying automobile paint, Freon, and many other innovations.







Shokran jazeelan.