



# FutureComm: Communicating in a Post-Literate World

**College of St. Scholastica**  
**February 18, 2003**

Mike Ellsworth

StratVantage Consulting, LLC

Copyright © 2003, StratVantage Consulting, LLC.  
All Rights Reserved.

# Agenda

- The Accelerating Rate of Change
- What's Hottest
- Challenges for Technical Communication
- How Can We Cope?
- What You Need to Do Now

# Prognosticator's Paradox

*It's difficult to make  
predictions, particularly  
about the future!*

Robert Storm Petersen,  
Danish poet and philosopher 1882-1949

# The Accelerating Rate of Change

- “When people think of a future period, they intuitively assume that the **current rate** of progress will continue for future periods. However, careful consideration of the pace of technology shows that the rate of progress is **not constant**, but it is human nature to adapt to the changing pace, so the intuitive view is that the pace will continue at the current rate.”

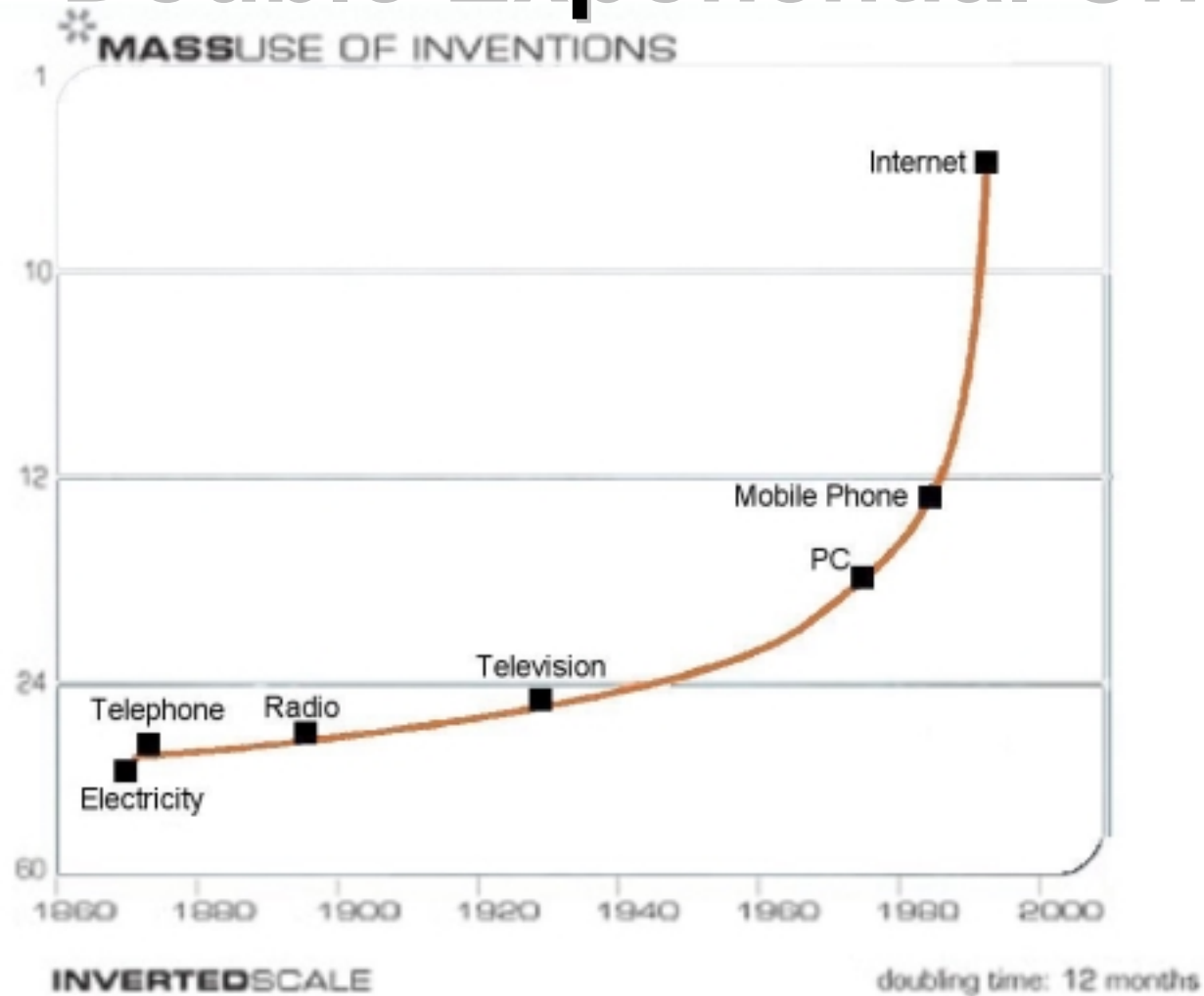
– *Inventor and Futurist Raymond Kurzweil*

# The Rate of Change in the Rate of Change

- Kurzweil plotted the rate of change on an exponential scale – and got an exponential curve!



# Double Exponential Change



“Indeed, we find not just simple exponential growth, but ‘double’ exponential growth, meaning that the rate of exponential growth is itself growing exponentially.”

# Progress, Anyone?

- Overall rate of technical progress is currently doubling every decade
- The rate of acceleration is itself growing exponentially
- Technological progress in the twenty-first century will be equivalent to what would require (in the linear view) 200 centuries
- The 20<sup>th</sup> century saw only about 25 years of progress

# Hardware to Wetware

- “The upcoming primary paradigm shift will be from biological thinking to a hybrid combining biological and nonbiological thinking. This hybrid will include ‘biologically inspired’ processes resulting from the reverse engineering of biological brains.”



# **“Wait A Minute!” You Say**

- That’s pretty far out stuff
- Even if true, it’s hard to see how such changes will affect me
- Besides, if the 21<sup>st</sup> century will see 20,000 years of progress, that means this decade will see 100 years, and I don’t see things moving that fast

# How Far We've Come

- Let's take a look at how things have changed in just the last 6 years
- In 1995 how many of you had :
  - A beeper?
  - A cell phone?
  - An Internet connection?
  - An Internet email account?
  - A company Web page?
  - Electronic commerce (EDI, etc.)?



# How Far We've Come

- In 1998 how many of you had :
  - Internet access faster than 28.8Kbps?
  - A free Internet email account?
  - Ever heard of MP3 or Napster?
  - Sent an Instant Message?
  - A Personal Digital Assistant?
  - A personal Web page?



# FutureTech Topics:

- Digital demise
- DNA bar codes for GM food
- Plastic Chips
- Terahertz Imaging
- Microscopic Motors
- 3D photonics
- Piece of Mind
- Hybrid ICs
- Kurzweil / Edge Challenge
- Electron Shedding Molecules
- Death is an Outrage
- Photonics / Global Communications
- Destination: Mars
- Collective Intelligent Bricks
- Global radio network for smart devices
- A day at the office in 2013
- Metal stores more hydrogen

# What's Hottest?

- In a hypothetical letter to President Bush, Ray Kurzweil advised him to:
  - Accelerate FDA review of defensive solutions for bioengineered pathogens
  - Fund a crash program for developing promising new methodologies for human somatic cell engineering
  - Perfect hydrogen fuel cells, which could have major implications for the economy, the environment, and the geopolitics of oil

# What's Hottest? RFID

- Radio Frequency Identification (RFID)
  - Allows manufacturers, warehouse, and retailers to wirelessly track inventory without physically scanning a bar code
  - A passive radio circuit is embedded in a cheap (from under 40 cents to about \$1 each) adhesive tag
  - Special radio scanners activate the tags and read data from them.

# What's Hottest? RFID

- Radio Frequency Identification (RFID)
  - Gillette is buying 500 million RFID tags
  - In trials with Wal-Mart: Smart shelves
  - Another manufacturer rumored to planning purchase of 1 billion RFID tags
  - Your pantry could tell you when you've used the last can of tomato sauce
  - Your microwave could find out how to cook your frozen dinner by reading the RFID tag

# What's Hottest? Nanotech

- **Nanotechnology**, creation of devices less than 100 nanometers (100 billionths of a meter) in size
  - Continuously cleaning food processing equipment without corrosive or toxic chemicals
  - Producing non-invasive medical devices or drugs for diagnosis, monitoring and administration
  - Dramatically increasing data communication and storage capacity
  - Creating lighter and stronger materials



# What's Hottest? Nanotech

“(T)he impact of nanotechnology on the health, wealth and lives of people will be at least the equivalent of the combined influences of microelectronics, medical imaging, computer-aided engineering and man-made polymers developed in (the 20th) century.”

Nobel Laureate Richard Smalley

# For More of This Presentation

- To receive more of this presentation, or to engage Mike Ellsworth to present at your event, please contact us at:

[Present@Stratvantage.com](mailto:Present@Stratvantage.com)

Thank you

# What is Stratvantage?

- Stratvantage Consulting helps executives make better decisions about emerging technologies like
  - Wireless
  - eBusiness
  - Security and Privacy
- If you are struggling with fast moving technologies, don't make a costly, uninformed decision. Stratvantage Consulting can help you gain a sustainable competitive advantage using new technologies.



# Thank You!

Mike Ellsworth

StratVantage Consulting, LLC

Internet strategy and permission marketing

[mellsworth@stratvantage.com](mailto:mellsworth@stratvantage.com)

[www.stratvantage.com](http://www.stratvantage.com)

Receive free emerging  
technology news and  
commentary with the  
Stratvantage News Summary

