Change and Resilience Thinking

Presented by Dr. David Gould

Resilience Thinking

- Change
- Resiliency
- Insights
- References

Change

There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things.

Niccolo Machiavelli

Pace of Change
Some Characteristics of the Future

Speed – *the rate of change will accelerate*

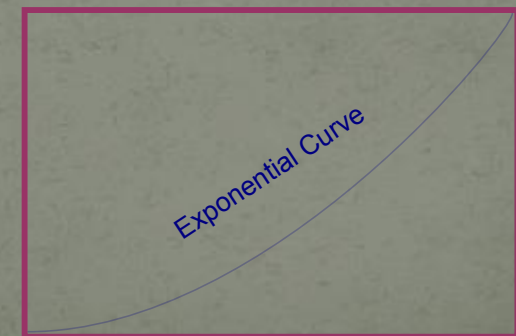*Complexity* – *continuously increasing*

Risk – *new and higher risks*
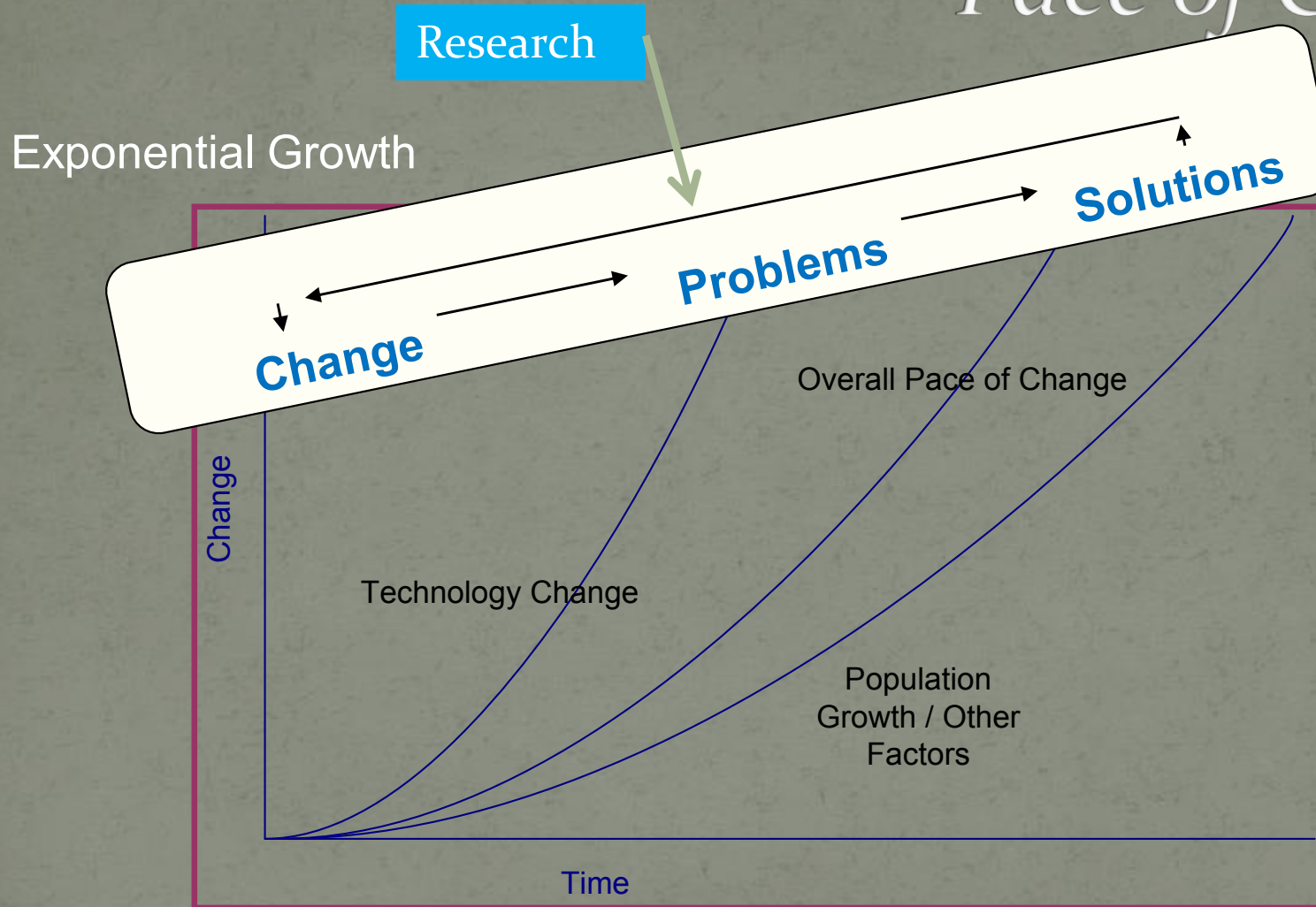
Change – *radical changes will force faster adaptation*

Surprise – *will become a daily feature of life*

Source: Dr. James Canton

We live in
exponential times!

Exponential Curve

Pace of Change

Exponential Growth

Research

Change

Problems

Solutions

Overall Pace of Change

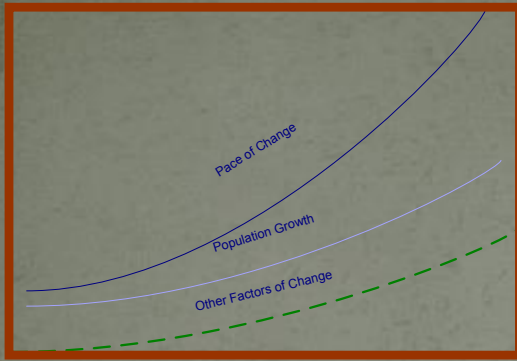Technology Change

Population Growth / Other Factors

Change

Time

Societal knowledge doubles every 8 – 10 years: Ray Kurzweil

Processing speed doubles every 12 – 18 months: Moore's Law

So, how do we get ahead of the curve?
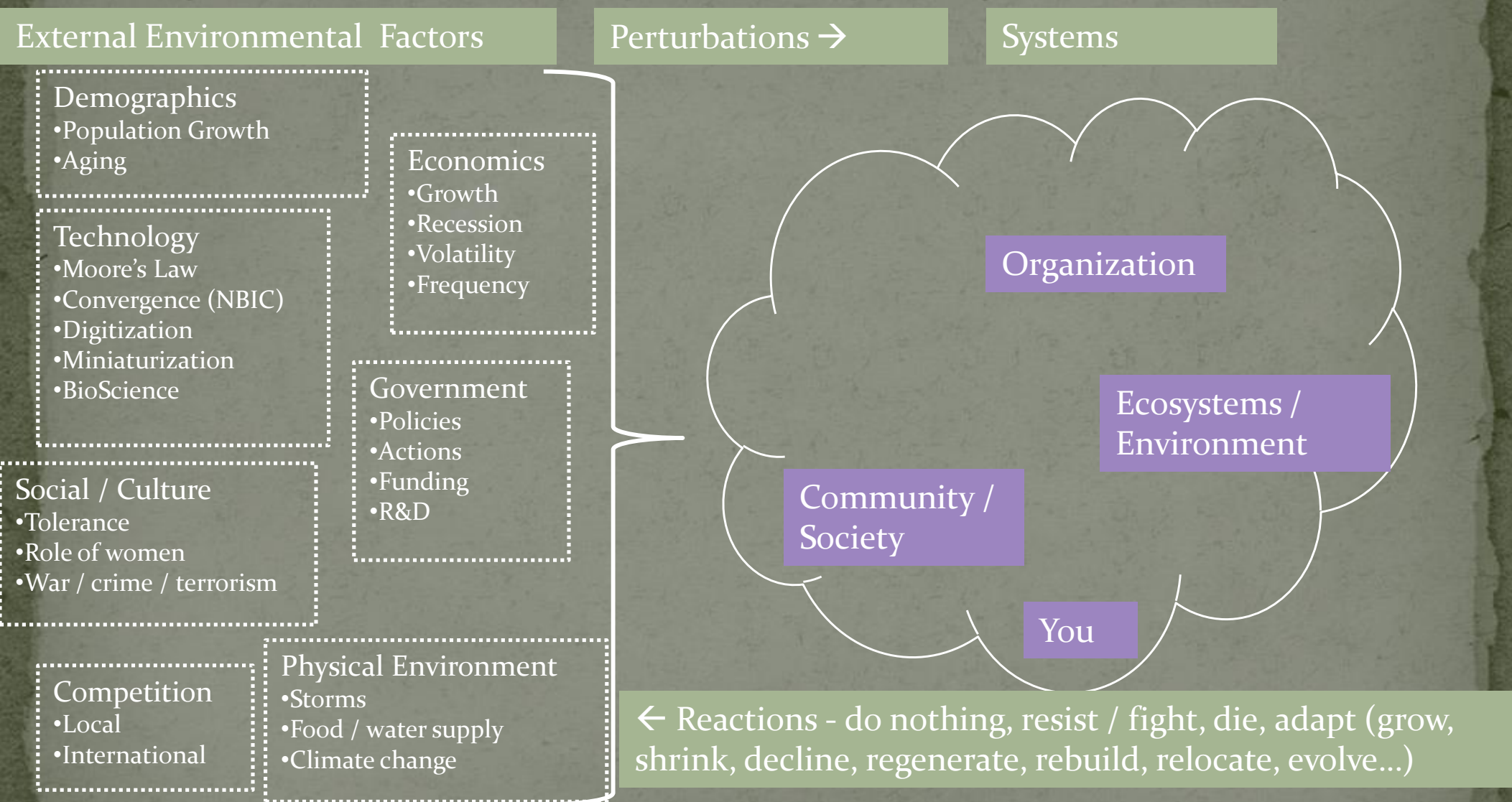
And apply what you have learned

The ability to learn faster than your competitors may be the only sustainable competitive advantage.

Arei P. De Geus

Change Framework

(Categories of factors that affect you, your community, your organizations, and ecosystems)

External Environmental Factors

Perturbations →

Systems

Demographics
- Population Growth
- Aging

Technology
- Moore's Law
- Convergence (NBIC)
- Digitization
- Miniaturization
- BioScience

Social / Culture
- Tolerance
- Role of women
- War / crime / terrorism

Competition
- Local
- International

Economics
- Growth
- Recession
- Volatility
- Frequency

Government
- Policies
- Actions
- Funding
- R&D

Physical Environment
- Storms
- Food / water supply
- Climate change

Organization

Ecosystems / Environment

Community / Society

You

← Reactions - do nothing, resist / fight, die, adapt (grow, shrink, decline, regenerate, rebuild, relocate, evolve…)

Resiliency

The amount of change a system can undergo (its capacity to absorb disturbance) and remain with the same regime – essentially retaining the same function, structure, and feedbacks.

Source: Walker and Salt

Questions

Given the pace of change – some estimates are that societal knowledge is doubling every 7 or 8 years, technical knowledge is doubling every 2 years, and population growth is expected to increase by 50% over the next 30 – 40 years, how do business organizations and communities respond to these changes in order to survive and thrive? Is sustainability realistic?

Questions

- Can we develop a profile of a resilient business organization or community?

- What can a business organization or community do to foster resiliency?

- What can we learn and apply from resiliency studies on children?

Wealth

Wealth should be measured, not in money or power, but rather in the ability to change and adapt.

This sort of wealth sets limits for what is possible – it determines the number of alternative options for the future.

C.S. Holling

Performance and Resiliency

- Environmental changes (economics, technology, …) perturb or affect social organizations over time.

- As these perturbation changes come faster, shocks to social organizations may increase in frequency , duration, and severity.

- Organizational resiliency is a major factor in coping with change and thus a determinant in performance over the long run.

Diversity

- Diversity is most valuable during times of change, when the integrity of a complex adaptive system is threatened. Source: Norberg and Cumming
  - What might this mean for business organizations and communities?
- Diversity is increased by foresight and innovation. Source: Norberg and Cumming
  - What might this mean for business organizations and communities?
- Successful innovation and diversity are key factors in sustainability
  - What might this mean for business organizations and communities?

Adaptive Capacity

- Adaptive capacity is the outcome of having different options and the potential to switch between them. Even if options are abundant, a system can lack adaptive capacity if change between options is not possible. Source: Norberg and Cumming
  - What might this mean for business organizations and communities?
  - What are the options for business organizations and communities? What is their adaptive capacity?

Future Thinking

- The heart of proactive behavior lies in an ability to anticipate change and to understand the processes that govern systems dynamics. Source: Norberg and Cumming
    - What might this mean for business organizations and communities?

What Can We Do?

- Think strategically
- Scan the environment for changes
- Develop a business disaster and continuity plan
- Stay connected to our stakeholders – suppliers, trading partners, customers, media …
- Maintain an adequate supply of materials or seek new ones
- Strengthen the organizational culture
- Innovate, experiment, and adapt
- Reduce hierarchy, increase autonomy, and encourage diversity (Beinhocker)
- ????

Insights

Since the future of the world rests largely in the hands of decision-makers at all levels, training in decision-making is needed; today's decision science is primitive and needs to be improved.

Source: 2006 State of the Future

The World is Indifferent

The world is indifferent to tradition and past reputations, unforgiving of frailty and ignorant of custom or practice. Success will go to those individuals and countries which are swift to adapt, slow to complain and open to change

Source: March 2006 – OECD

http://www.oecdobserver.org/news/fullstory.php/aid/1889/

We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.

-T.S. Eliot

References

- Beinhocker, E.D. (2006). The Adaptable Corporation. *The McKinsey Quarterly*. Number 2.
- Norberg, J., & Cumming, G.S. (2008). *Complexity theory for a sustainable future*. New York, NY: Columbia University Press.
- Ramo, J.C. (2009). *The age of the unthinkable: Why the new world disorder constantly surprises us*. New York, NY: Back Bay Books.
- Resilience Alliance - http://www.resalliance.org/1.php
- Walter, B., & Salt, D. (2006). *Resilience thinking: Sustaining ecosystems and people in a changing world*. Washington D.C.: Island Press.