Stewarding Engagement
Harnessing Knowledge
Lessons Learned from the Future
Keeping the Future in Reserves

Canadian Reserves on Operations: Lessons Learned

22-25 April 10

Calgary, Canada

John Verdon,

Office of the Chief Scientist

National Defence　Défense nationale

Aim: **Lessons learned from the future**

The Future is less about its discovery and more about its invention

Key trends of importance for people and organizations

- – Demographic

- – Technology - pace & frontiers

- – Techno-Economic
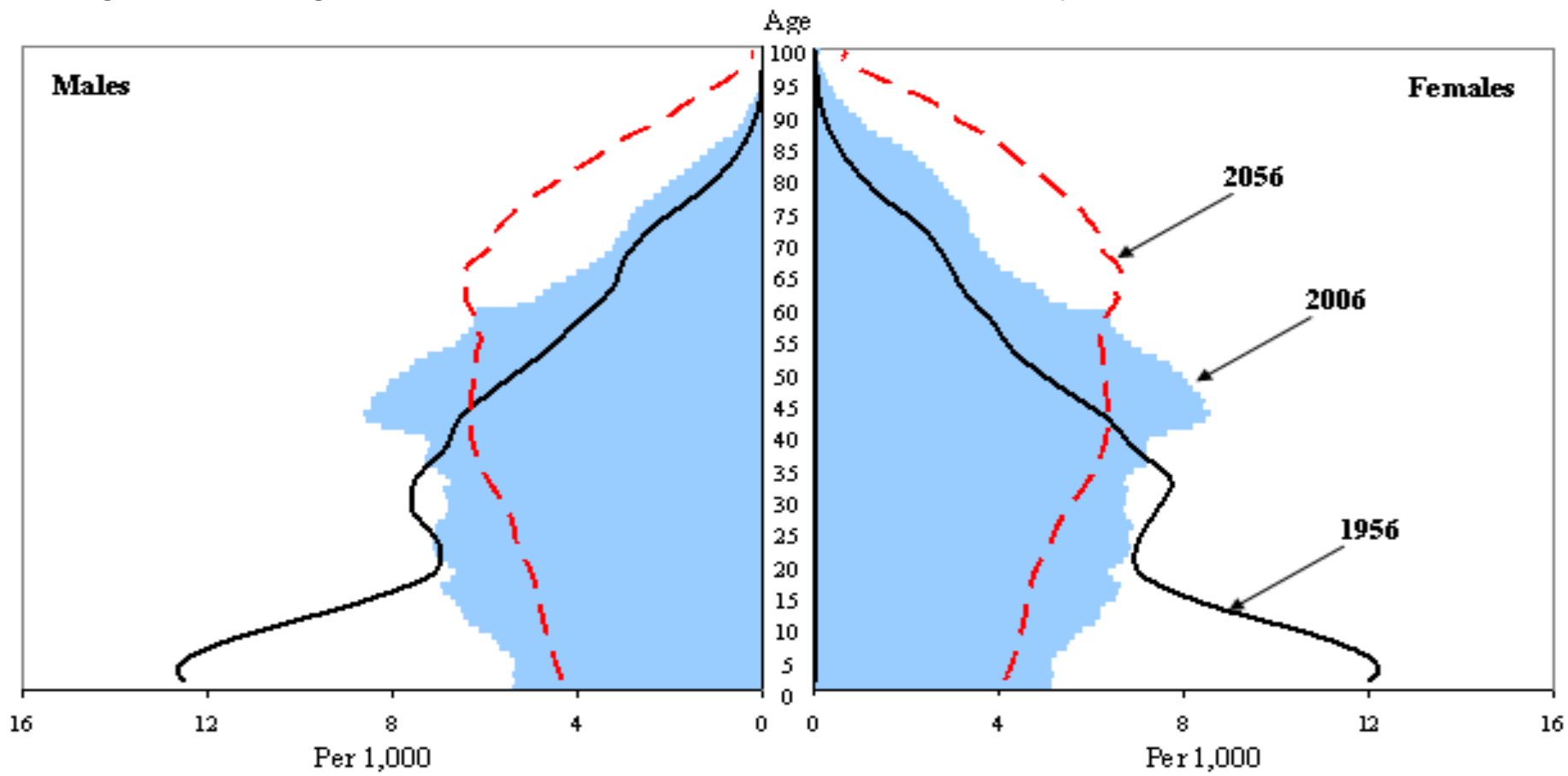
- – Techno-Socio/Cultural

Some Implications and Recommendation
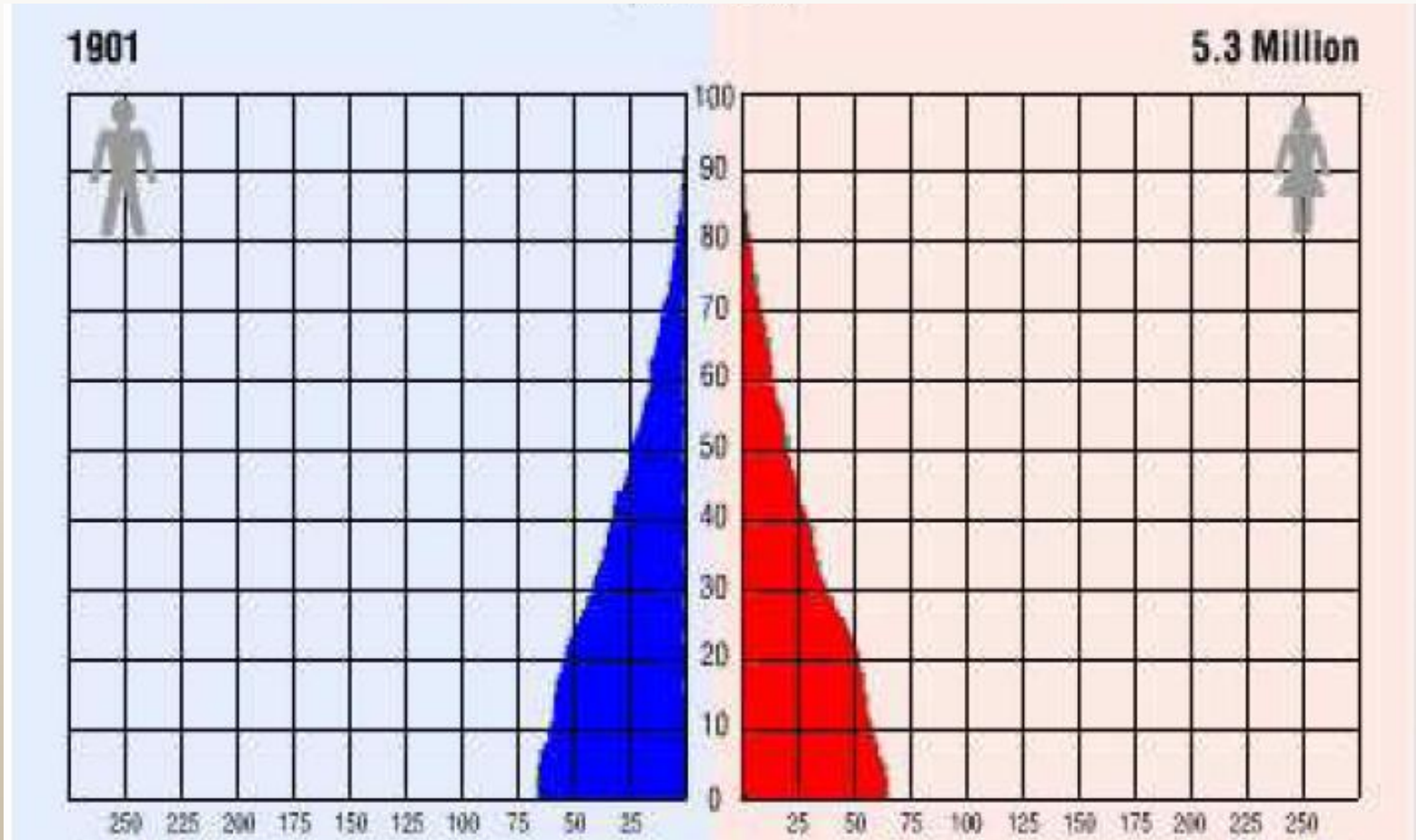
Changes in the age structure of the Canadian population by sex, 1956, 2006 and 2056

26% of public service can retire in 2014

1901   5.3 Million

Increasing Diversity, Urbanization and Migration

- Immigration responsible for:

  - 46 % population growth (1995)

  - 60 % population growth (2001)

  - 100 % population growth (2030)

By 2011 immigration expected to account for 100% of labour force growth

- Cultural Complexity – Rapid change + 3 M

- Re-definition of family and self - and the home

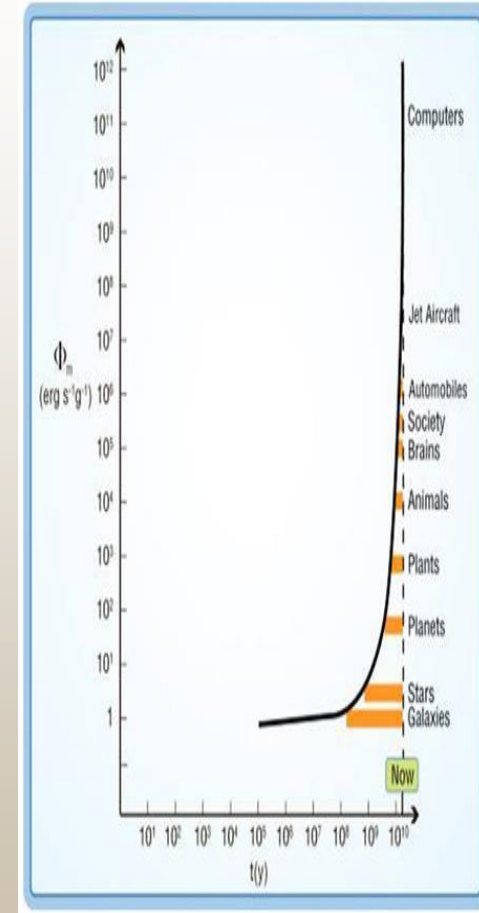- The evolution of a 24-hour "Glocal" society.

The pace of change is accelerating:

We Don't Know

- *What occupations will be vital in 5, 10, 15 years, that don't yet exist*

- *What today's recruits will need to know*

- *Pressure on enhanced Learning , Human Performance and Organizational transformation*

Cognitive Science & Technology

- Mapping of cognitive processes,

- Diagnosis, repair and enhancement

Impacting

- Intelligence, Identity, Person-system Interface
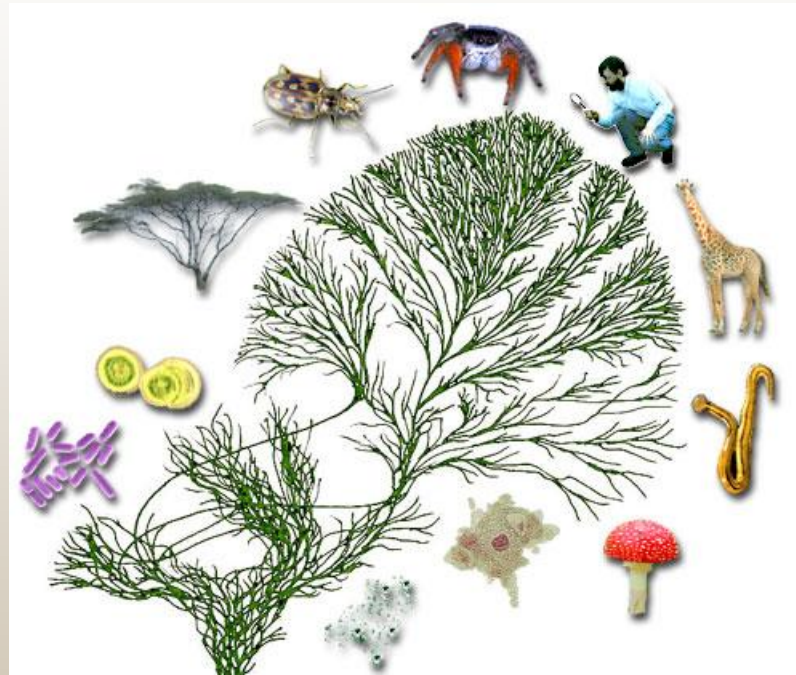
- The deep assessment of individuals

Biology now an information Science

We are in the

Post-Species Era

There is now only one Gene Pool!

Genes are not our destiny they are our Common Wealth

Will there be an end to the drive to enhance human experience and performance?
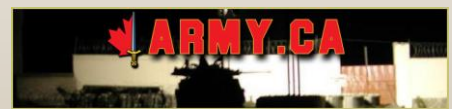
- **Gene & Stem Cell Therapy**

- **Computer Implants, Nanotech agents**

- **Connected to dispersed sensors**

- **Material and pharmaceutical augmentation**

- **Cloning**

- **Radically New Science ….. And a lot more**

The 100 year life

How important will enhancement be to Baby Boomers?

Techno-Economic
Networks, Digitalization, Innovation

Web 3.0 + → Semantic Web

One Machine

Global AI

Internet

Server Farm

Connections Between Machines

Google

Seti@home

Noosphere

Delicious Twitter

Computer AI

Web 2.0

Flickr Facebook

Connections Between People
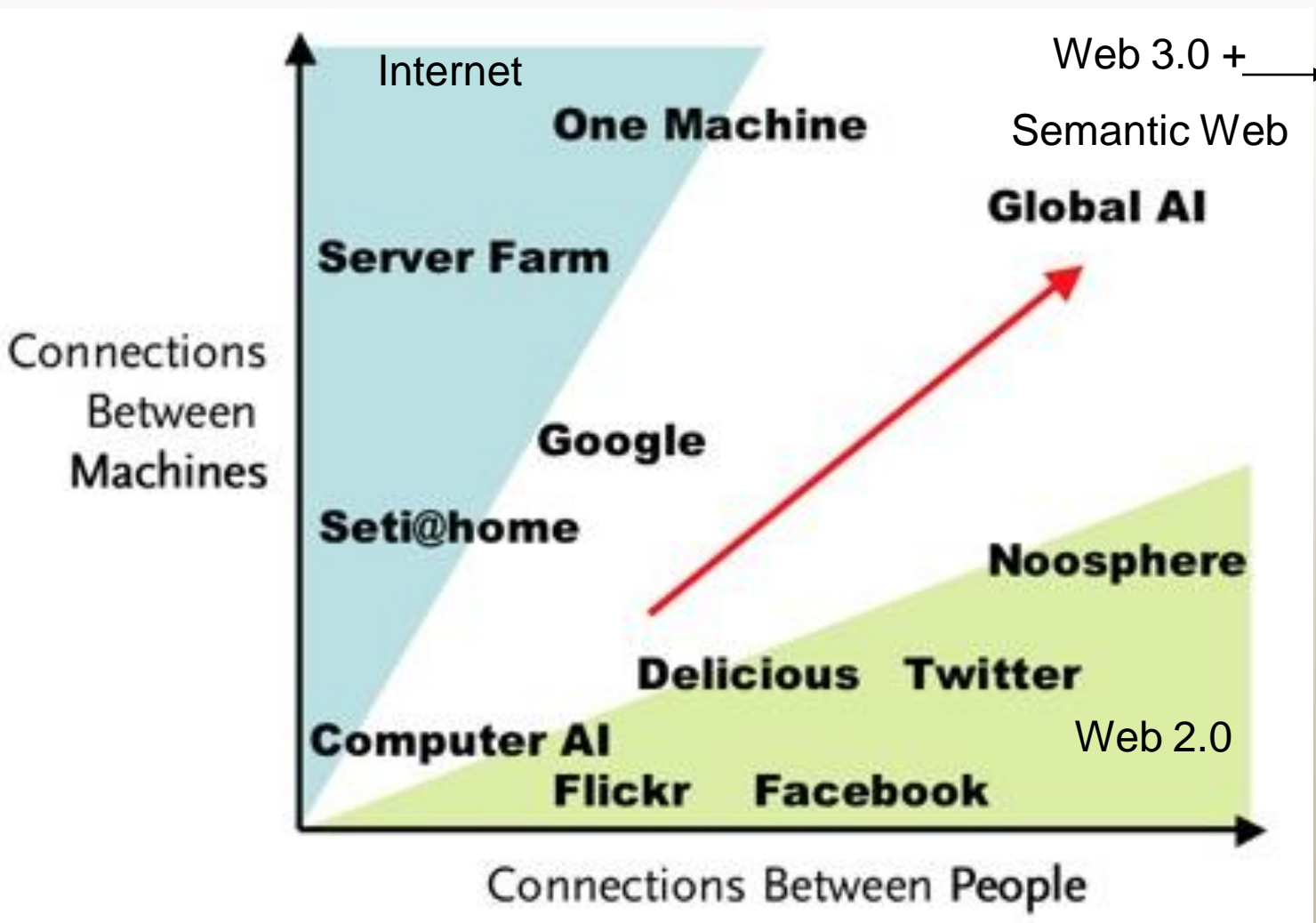
To make human connections readable by machines and vice versa so that the web of machines and people can work in concert.

"Everyware"

The Long Tail of Book Sales

High

S
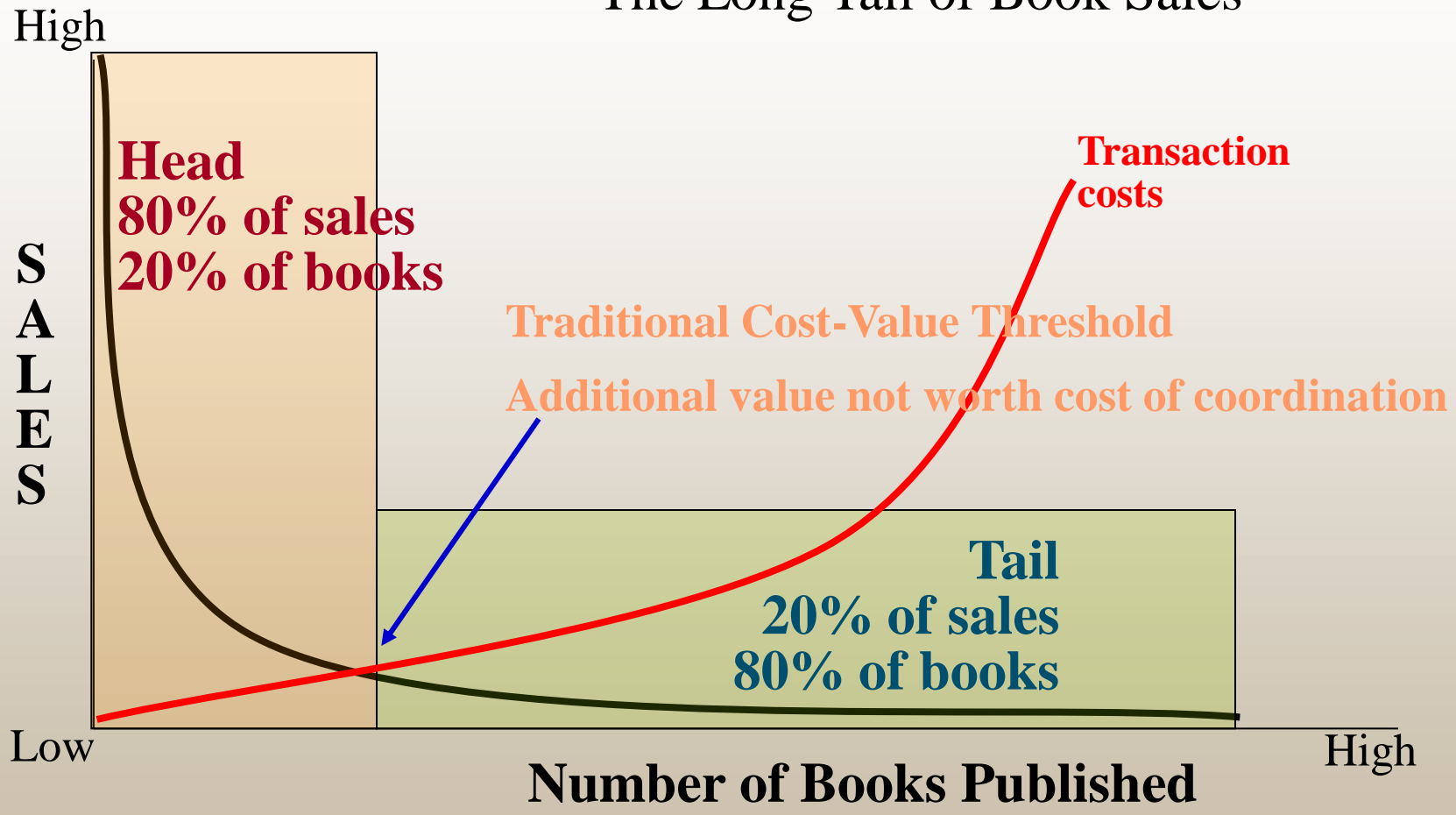A
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**Head
80% of sales
20% of books**

**Transaction
costs**

Traditional Cost-Value Threshold

Additional value not worth cost of coordination

**Tail
20% of sales
80% of books**

Low

High

Number of Books Published

The Long Tail of Book Sales

Head

When aggregated sales from the Tail are now greater than the Head

Sales now available to Amazon without additional costs

High — SALES — Low

Low — High

Number of Books Published

The Long Tail of Open Source Crowdsourcing

High

Productivity

Low

Head
80% of productivity
20% of people

Harnessing Intrinsic Motivation - Passion

Tail – Productivity unavailable to hierarchy
20% of productivity
**80% of people**

High

Number of Producers

A new mode of production

Person-centric
- From Place-to-Place To Person-to-Person
- From person-in-job to Person-best-able
- Wisdom of Crowds and Power of Crowdsourcing
- High Definition Human Capital
- Integrated Ubiquitous Networked

Linking the right person to the right situation at the right time

**Openness to new concepts of
Structure, process and decisioning is
Key to the power of people and Network Technologies**
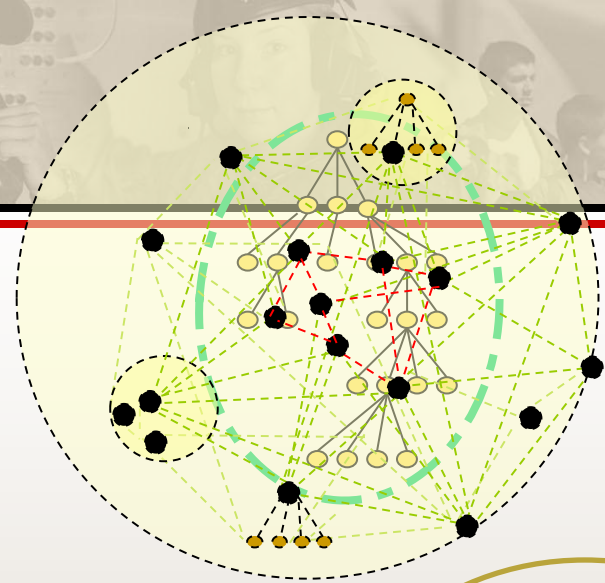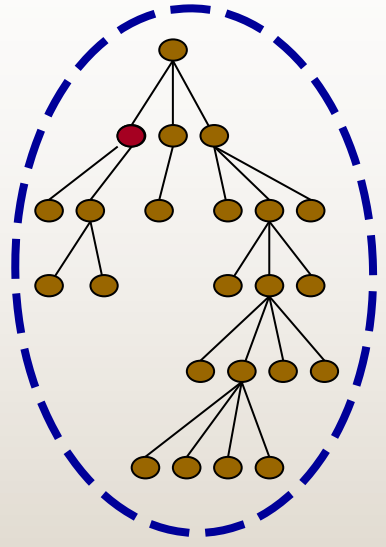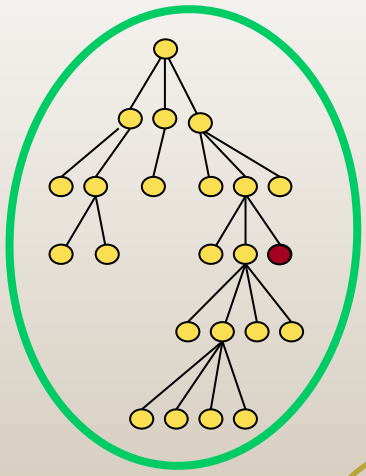
1
Team
Lead

5
Team
Members

100s Service
Contributors

1000s
Dept.
Contributors

300,000s
Government.
Contributors

34 Million
Citizen.
Contributors

Key Points:

• The costs of coordination and (self) organizing are collapsing

• The pool of knowledge outside the organization is larger than the pool inside

• Agility requires architectures of participation and new ways to design how things can get done

Techno-Economic
Networks, Digitalization, Innovation

New principles, concepts, products based on:

- High Definition Human Capital

- New Business Models & Transparency

- Labour Force Activity & Structure

  – Self managed careers

  – Non-linear multi-career life path,

  – Crowdsourcing. Cloud-labor, Talent-Commons

  – Continuous global operations

  – Transformations of Gendered labor sectors

Learning, Education, Operational Agility:
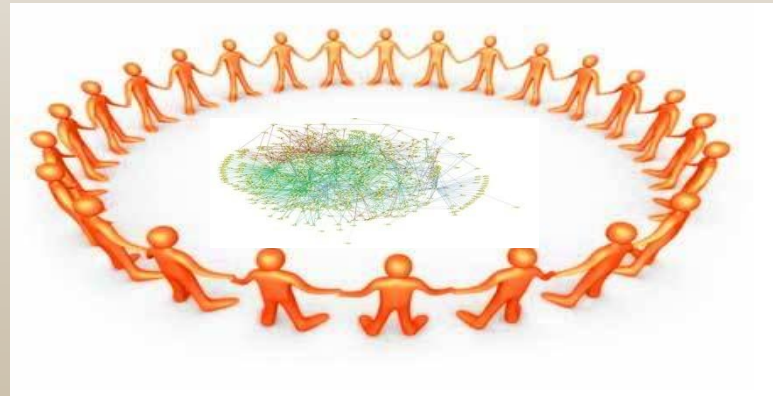
- Bi-directional learning
- Transfer of knowledge versus knowledge creation
- Real time collective learning & collective intelligence
- Re-Training and Re-re-training

Individual intelligence vs Intelligence Amplification

Games build Virtuosos
- Building (maintaining- assuming) Social Fabric – require facility to develop / sense trust
- Urgent Enthusiam
- Blissful Productivity
- Epic Meaning

10,000 hours of gaming by the age of 21
500 million global gamers

We are witnessing what amounts to no less a global exodus to virtual worlds and other online (gaming) environments

In games We can imagine the ripples of potential events across massively multiple domains

http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html
http://g4tv.com/videos/44277/dice-2010-design-outside-the-box-presentation/

Emergence of the Defence / Security Professional:

- Beyond the Defence Team

- Beyond Regular Force & Full/Part-Time Employment

- Supporting and enabling the Comprehensive and Whole of Government Approach

- Fully integrating the planning, development and employment of military and civilian personnel.
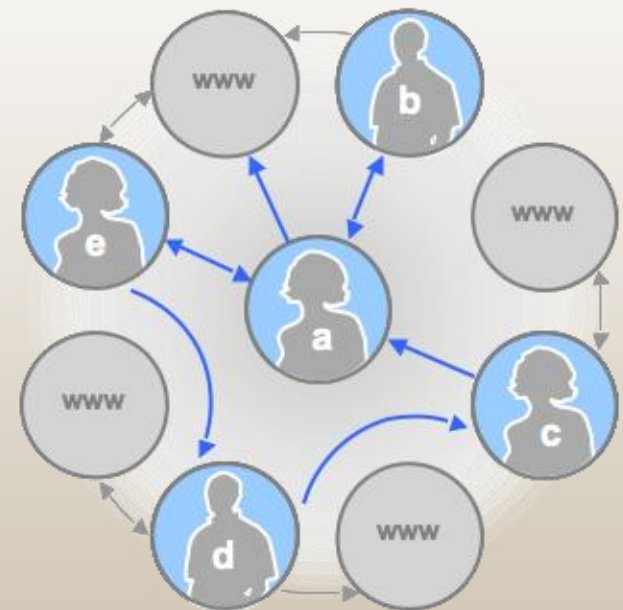
Identity and Commitment

- Members create the organization &the organizations shapes the individual

A Concept of Commitment versus Contract

- Contract is specifiable exchange

- Commitment is progressive view of mutual relationship & responsiveness between member(s) and organization

- Organic relationship as source of both trust, mutual ideals, goals beliefs.

Fits outside the business and corporate strategies, and shapes *them*.

They are about rewriting the logic of the industrial era entirely, shifting gears in how we think, envisioning a broader, more powerful, more challenging use of social tools

They are about developing the capacity to understand an organization's role in society, and how to play a more constructive one, wielding sociality as a source of advantage…
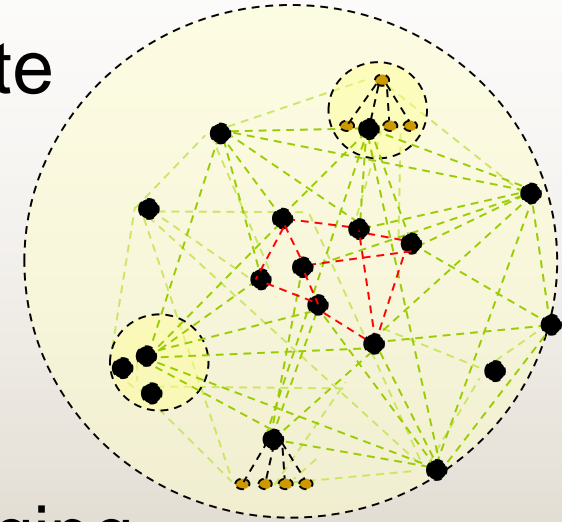
Umair Haque

The Golden Blackberry

- *Connecting the community (Mil. Def. security)*
- *Enrolling the retired*
- *Linking with recruits*
- *Engaging citizens*
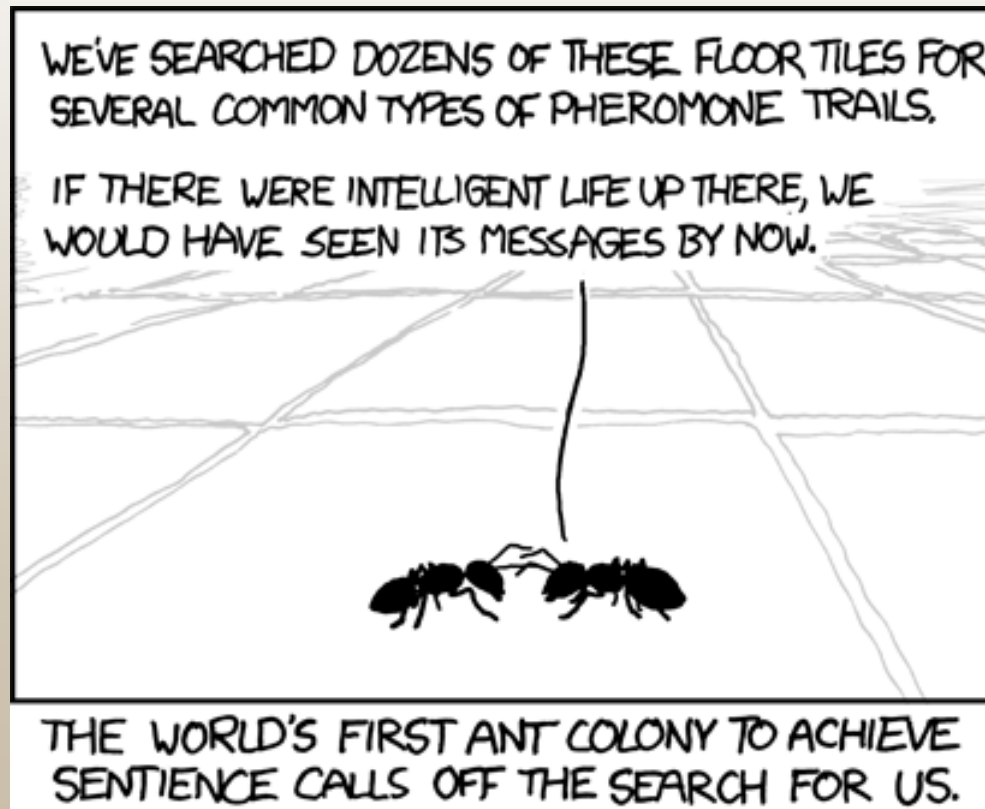- *Building and using "Talent-Commons"*
- *Developing capability to Link*

The right person to the right situation

at the right time

Stewarding Engagement – Harnessing Knowledge

Questions?

Web 2.0 – Social Network Technologies

Massive Online Multiplayer Game

What will be Disrupted

By *a new mode of production – An Architecture of Participation – Emergent Collective Intelligence*

- Person-centric – From person-in-job to Person-best-able
- Wisdom of Crowds, Power of Crowdsourcing, Peer-Production
- Collapse of communication, transaction, coordination costs

Examples of Disruption

Organizational Governance and production based on Control Hierarchy **By** Accountable Self-Organization

Educational Models **By** just-in-time collaborative co-creation of knowledge, training and learning

Stand-alone application **By** collaborative applications

All Media Industries are struggling to survive, adapt and develop new business models

Tipping Points for Disruptive Gain

Socio-cultural parameters key to organizational/human self-criticality for optimizing technology enablers

Inter-dependent performance parameters include:

- **Provide** the **Tools** and **enable** their (experimental) **use**
- Enabling and powerful **search** capabilities and **transparent** aggregation/synthesis of **content**
- **Group forming** capability (interest, project, task, etc.) and a Capacity to redesign work-processes to empower **cross-boundary & jurisdiction collaboration**
- **Low Barrier to participation** (including ease of use, time to use and capacity to self-select for participation)
- Emergent, interactive & immediate **usefulness**
- **Incentives** – support for **intrinsic** and endorsed **extrinsic** rewards – for both **individual and collective work**

The Future

Linking the right person to the right situation at the right time

Cloud Computing and ubiquitous Digital Ecosystem; Augmented Reality; Everyware enabling On-Demand Meshworks and Assemblage

Optimal use and development of High Definition Human Capital (including intellectual, social, cultural capital) and Harnessed Complex Self-Organization

Accelerating pace of **change** makes **unknown and unpredictable** what **work/expertise** will be **needed** for in 5, 10 and 15 years, and yet we will need to **invest even more to develop and grow and fully utilize** science and technology research and military **personnel.**