



# The Drivers of Change

What They Are  
Where They Are Taking Us

*Set Your Sights on the World*  
FITT 10<sup>th</sup> National Conference  
Vancouver, BC  
April 1, 2007

Ruben Nelson  
Executive Director, Foresight Canada  
[RubenNelson@shaw.ca](mailto:RubenNelson@shaw.ca)  
888-673-3537

# My Role



# We ARE Co-Creating Our Future

---

**The future is not some place we are going,  
but one we are creating.**

**The paths to it are not found but made,  
and the activity of making them changes  
both the maker and the destination.**

**John Schaar**  
Science Advisor to  
President Nixon

# What We Do, Matters

---

Our world confronts rapid and potentially profound transitions...

It is increasingly clear that today's decisions could play a decisive role in determining whether the 21<sup>st</sup> Century offers **peace and prosperity** or **crisis and collapse**.

*The Challenge of Long-Term Policy Analysis*  
Rand Corporation

# As of Today

---

- **Canada has a great 20<sup>th</sup> Century culture**
- **We still have a 20<sup>th</sup> Century dream**
- **The 21<sup>st</sup> Century will not be a replay...  
It is moving off our inherited mental maps  
& existing business models**
- **We need new maps for new times –  
fresh and powerful visions of where we  
are in history and what we can become in  
the 21<sup>st</sup> Century**

# The **BIG** Strategic Question

---

**“Can we afford to continue to strive to create a better version of yesterday to serve a truly new tomorrow?”**



**“Onward” or “Pioneering Again”**



Really **BIG** Danger

---

Overshoot

# A Wee Test...

---

- 1, 2, 3, 4, 5, \_\_\_\_\_

# A Wee Test...

---

- 1, 2, 3, 4, 5, \_\_\_\_\_
- 2, 4, 6, 8, 10, \_\_\_\_\_

# A Wee Test...

---

- 1, 2, 3, 4, 5, \_\_\_\_\_
- 2, 4, 6, 8, 10, \_\_\_\_\_
- 1, 2, 4, 8, 16, \_\_\_\_\_

# A Wee Test...

---

- **1, 2, 3, 4, 5, \_\_\_\_\_**
- **2, 4, 6, 8, 10, \_\_\_\_\_**
- **1, 2, 4, 8, 16, \_\_\_\_\_**
- **1, 3, 5, 7, 11, \_\_\_\_\_**

# My Point

---

**Mostly Life Just Flows On  
According to Rules...**



**“Onward”**

# Observation

---

- **Mostly Life Just Flows On...**
- **But There ARE Deflections**



HEY!  
Over  
Here



“Onward” or “Pioneering Again”

# Warning

---

- **Mostly Life Just Flows On...**
- **But There ARE Deflections**
- **Deflections = CRISES**



HEY!  
Over  
Here

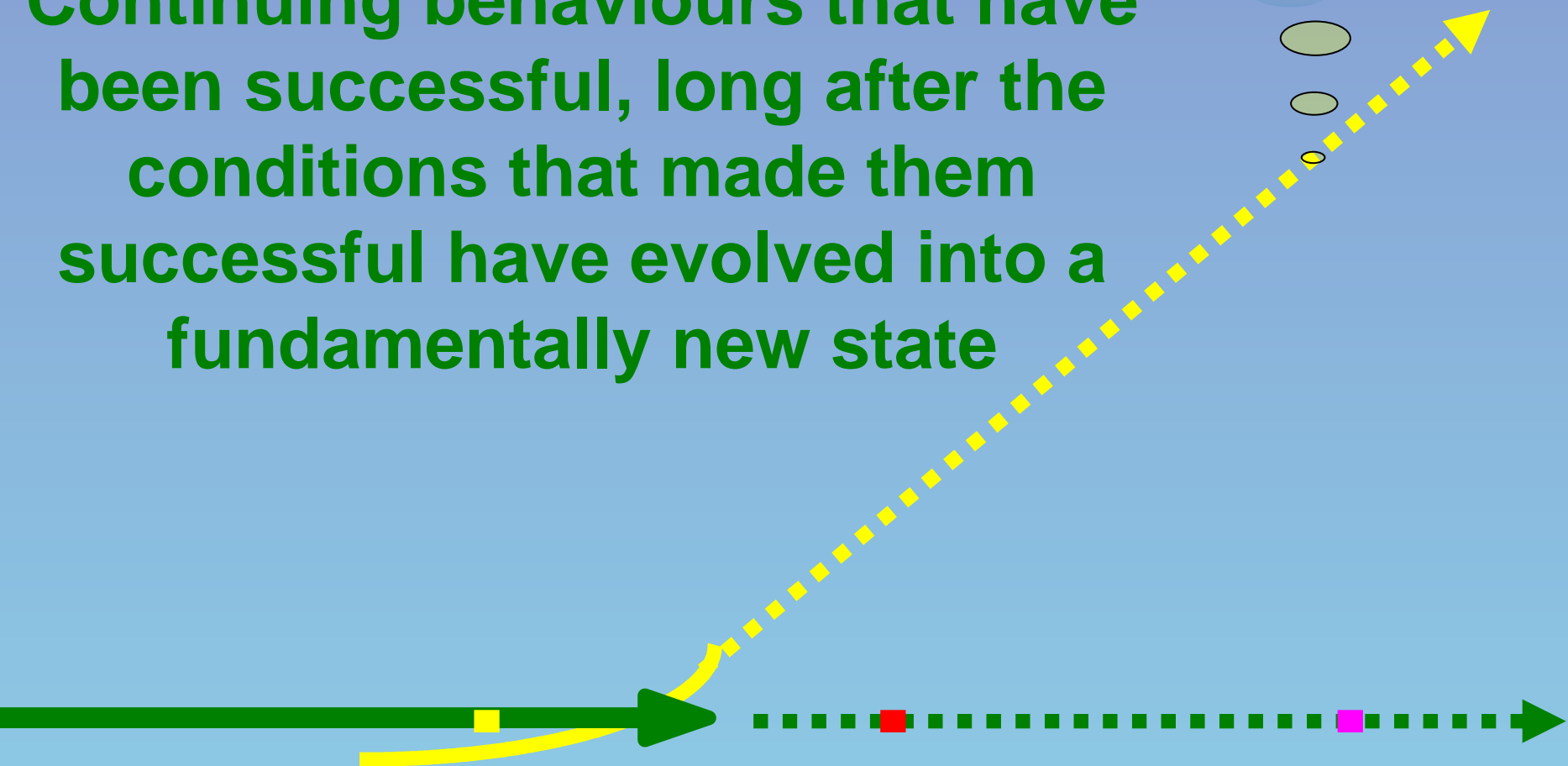
For those who just merrily “carry on business as usual”



“Onward” or “Pioneering Again”

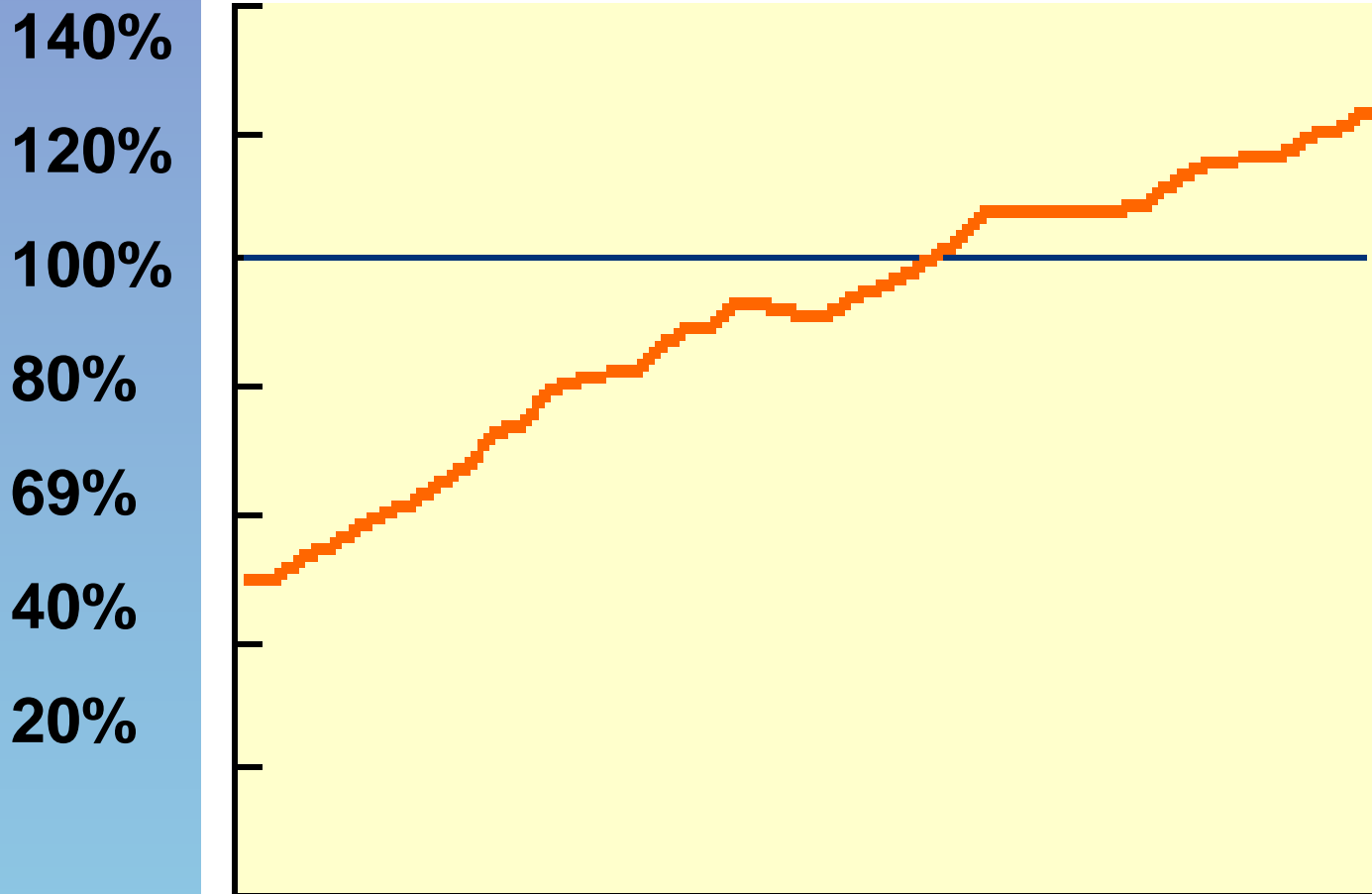
# Overshoot

Continuing behaviours that have been successful, long after the conditions that made them successful have evolved into a fundamentally new state



“Tweak & Innovate” or “Fundamental Change”

# Overshoot



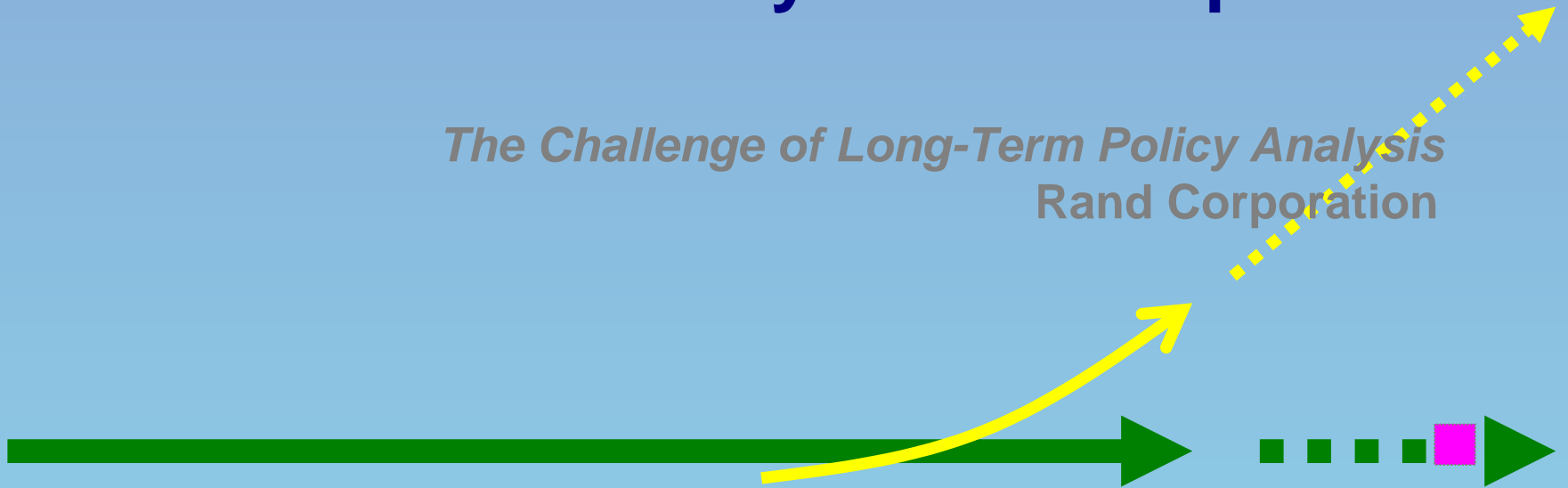
**The Human Ecological Footprint 1961 to 2002**

# Remember

---

**Experts consistently underestimate the likelihood that they will be surprised.**

*The Challenge of Long-Term Policy Analysis*  
Rand Corporation



**“Onward” or “Pioneering Again”**

# Facing Change is Rare

---

- **Kodak** – from chemistry to digital
- **IBM** – from “Big Iron” to constant transformation

# False Confidence is Fatal

---

- **GM** – from 1958 to Saturn to junk bonds
- **NASA** – Columbia Inquiry  
“Myopic, over confident, self deceptive”
- **FBI** – “did not respond or reorganize”
- **Alberta** – NEP, BSE, Oil/Gas Wealth

# False Confidence is Fatal

---

- **GM** – from 1958 to Saturn to junk bonds
- **NASA** – Columbia Inquiry  
“Myopic, over confident, self deceptive”
- **FBI** – “did not respond or reorganize”
- **Alberta** – NEP, BSE, Oil/Gas Wealth

**“No one could have anticipated . . .”**

# Imagination is the Key

---

We believe the 9/11 attacks revealed four kinds of failures: in **imagination**, policy, capabilities, and management.

**Imagination** is not a gift usually associated with bureaucracies. It is therefore crucial to find a way of routinizing, even bureaucratizing, the exercise of imagination.

Ways of doing business rooted in a different era are just not good enough. **Americans should not settle for incremental, ad hoc adjustments to a system designed generations ago for a world that no longer exists.**

9/11 Commission Report



# Drivers of Change

---

# Science in Transformation

---

Science is currently undergoing possibly one of the most important and wide-ranging upheavals in recent history. A global phase transition is sweeping across many disciplines from mathematics to physics to biology to sociology.

It may be characterized as an emphasis in **integration** over **fragmentation**; on **cooperation** rather than **competition**; on **dynamics and process** in place of the **static and mechanical**; on **non-linear distributed inter-relationships and emergent properties of collective wholes**, instead of **linear, unidirectional or hierarchical control of incidental parts**.

Most significant of all is the acknowledgement of a reality in which we, as scientists and human beings, participate; for this may put an end to centuries of abstractions that have alienated science for humanity and humanity from nature.

Mae-Wan Ho  
1989

# Changing Science

**Newtonian**

To

**Complexity**

**Static**

To

**Dynamic**

**Fragments**

To

**Systems**

**Certainty**

To

**Probability**

**Predictability**

To

**Emergence**

**“Onward” or “Pioneering Again”**

# Evolution of Micro-electronic Technology

---

## Mainframe World

# Evolution of Micro-electronic Technology

---

**Mainframe World**



**Stand Alone World**

# Evolution of Micro-electronic Technology

---

**Mainframe World**



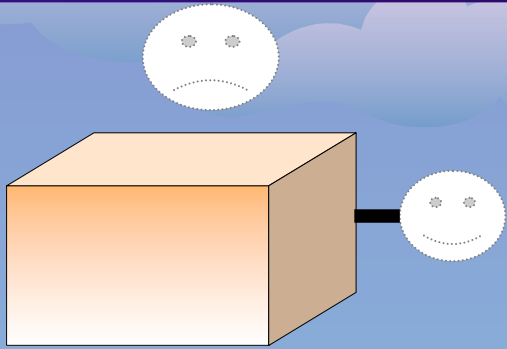
**Stand Alone World**



**Networked World**

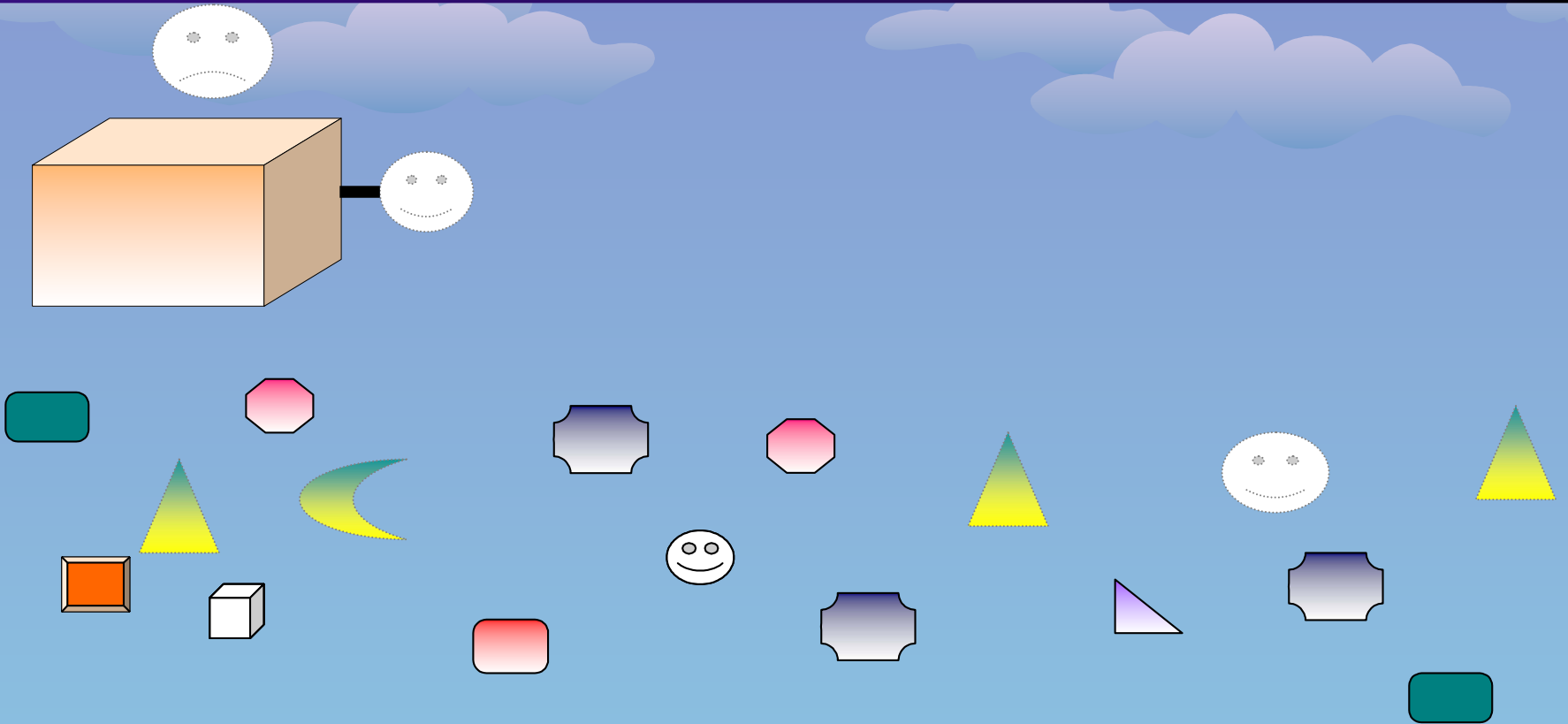
# The Evolution of Consciousness

---

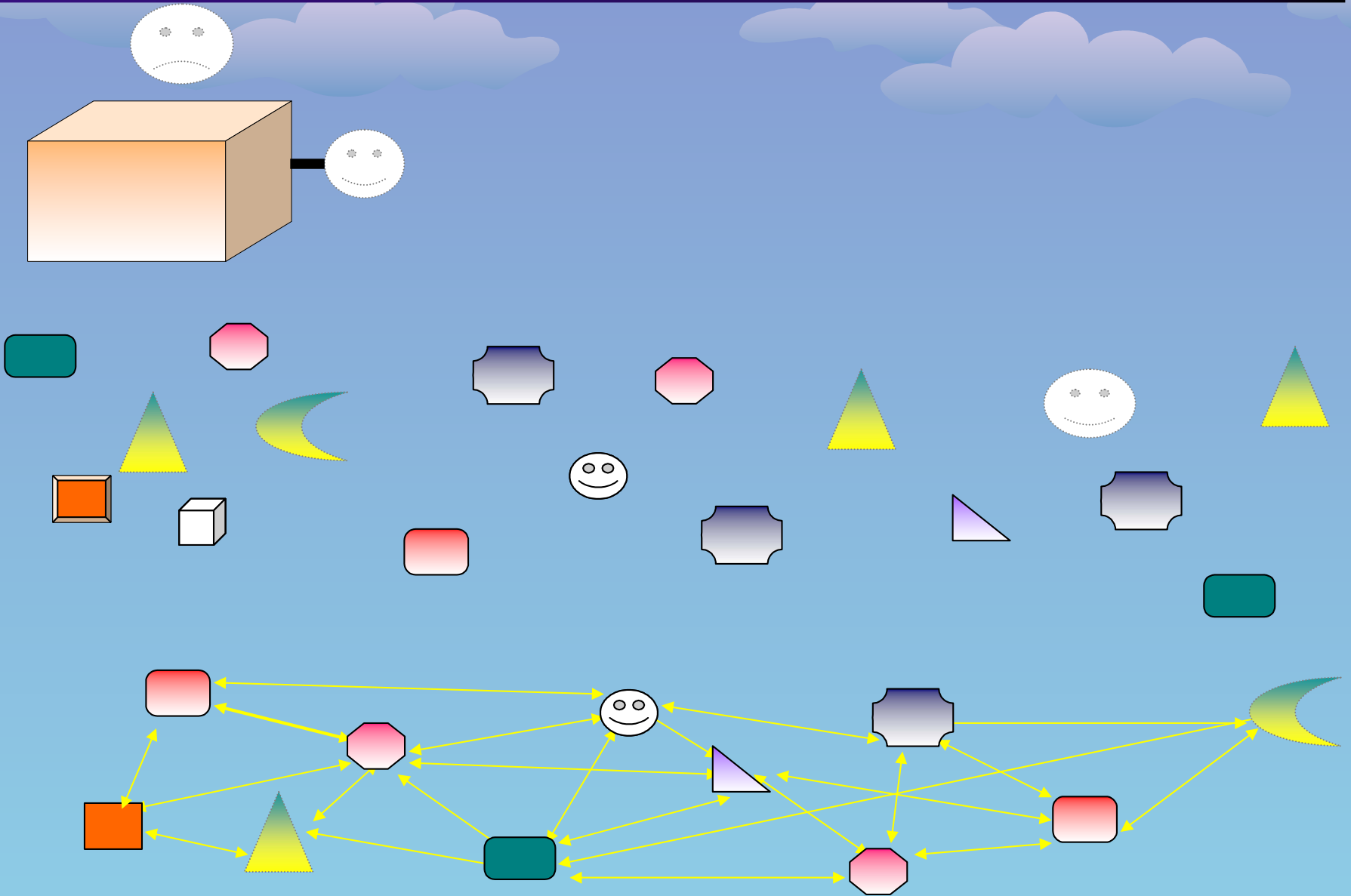


# The Evolution of Consciousness

---



# The Evolution of Consciousness



# The Evolution of Consciousness



# Changing Economy

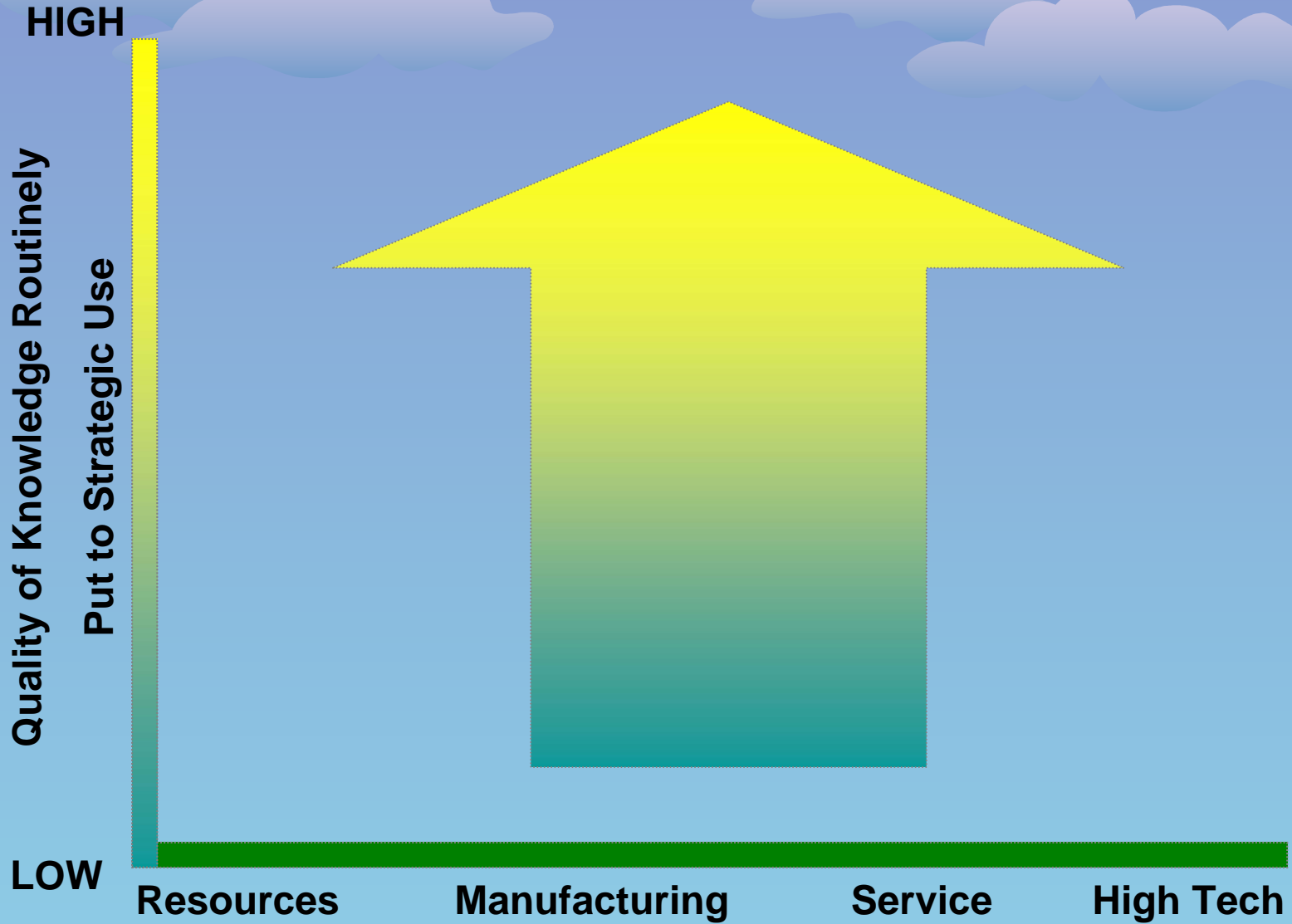
---

<b>Muscle</b>	To	<b>Knowledge</b>
<b>Raw Resources</b>	To	<b>Value Added</b>
<b>Supervision</b>	To	<b>Creativity</b>
<b>Separate Sectors</b>	To	<b>Common Causes</b>
<b>Value Chains</b>	To	<b>Value Ecologies</b>

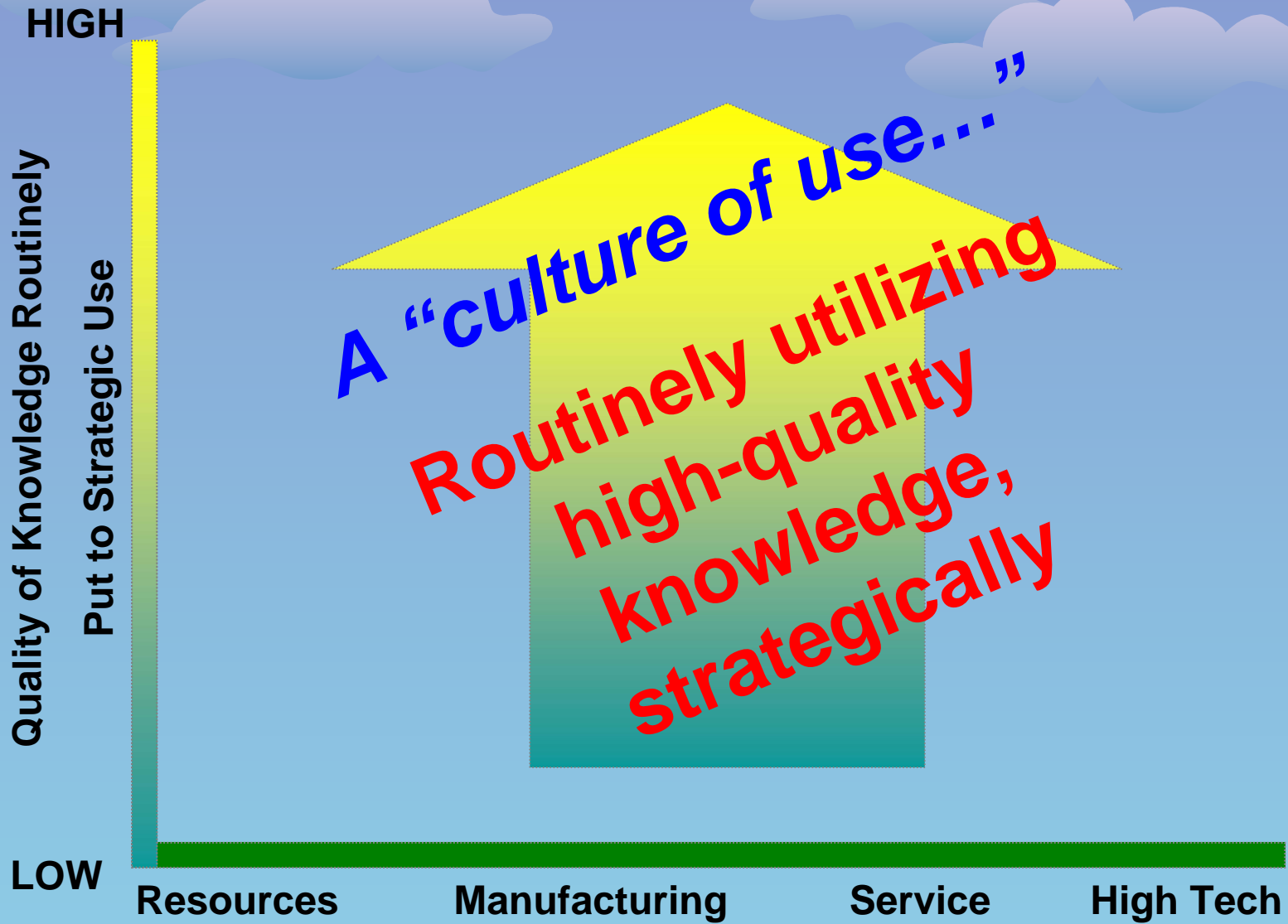


**“Onward” or “Pioneering Again”**

# “Go North”

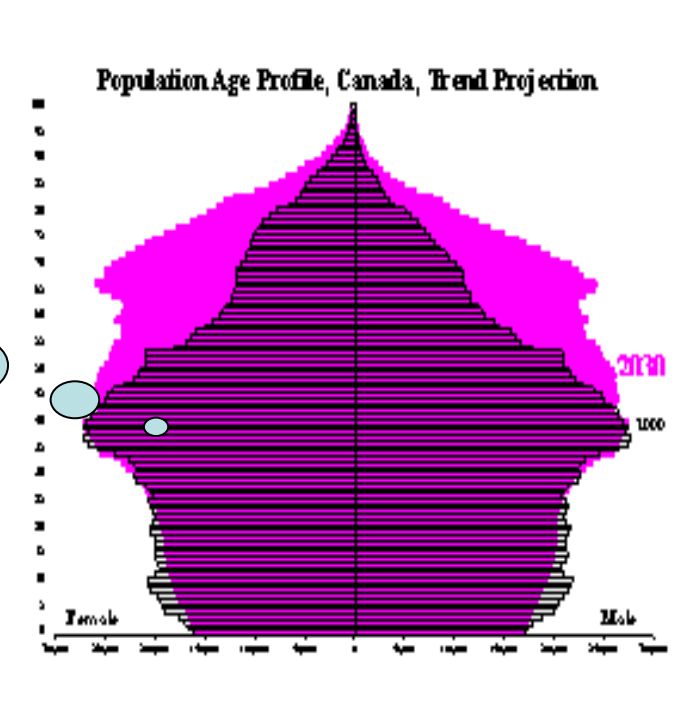


# “Go North”



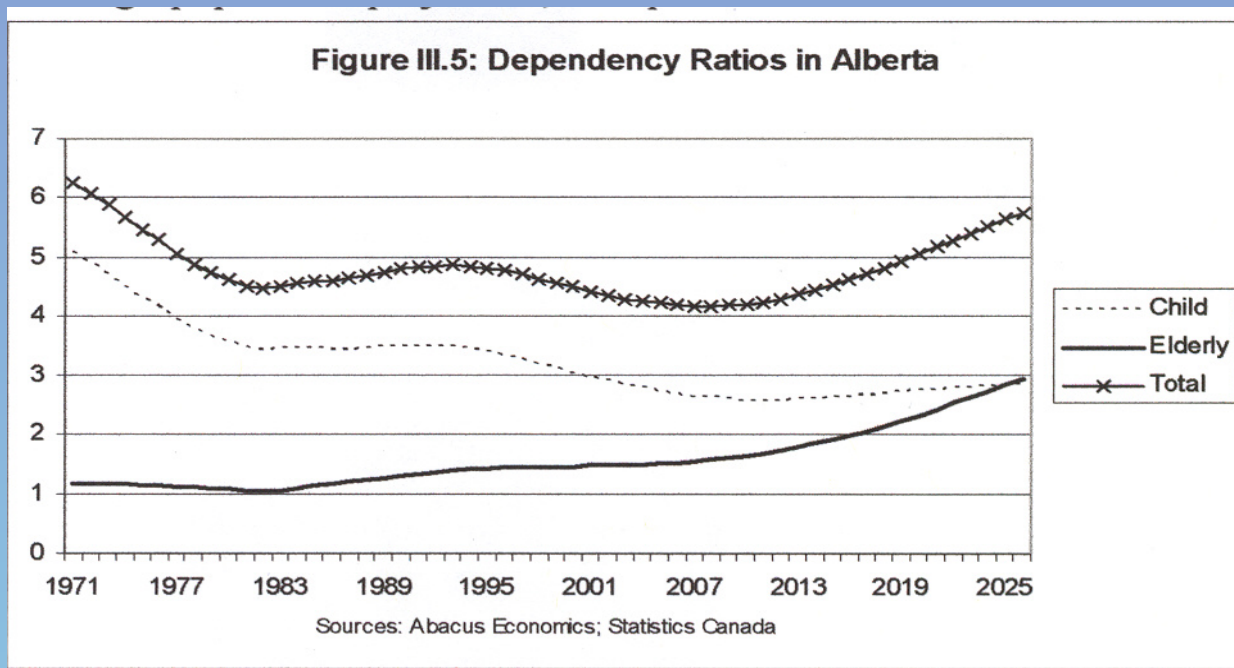
# Changing Demographics

The  
BIG  
Generation  
'52 - '66



“Onward” or “Pioneering Again”

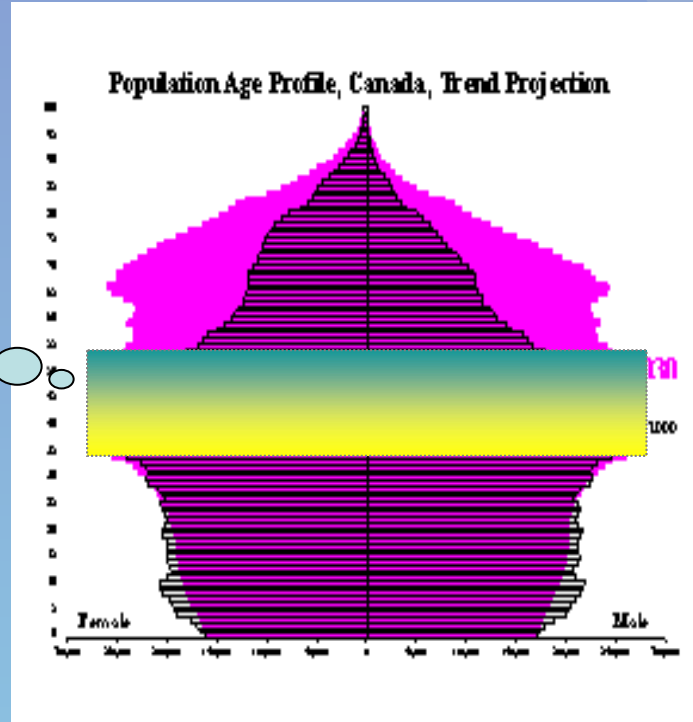
# Changing Demographics



“Onward” or “Pioneering Again”

# Changing Education Levels

The  
BIG  
Generation  
'52 - '66



“Onward” or “Pioneering Again”

# Changing Demographics

Buyers

To

Sellers

Dependent

Independent

Victims

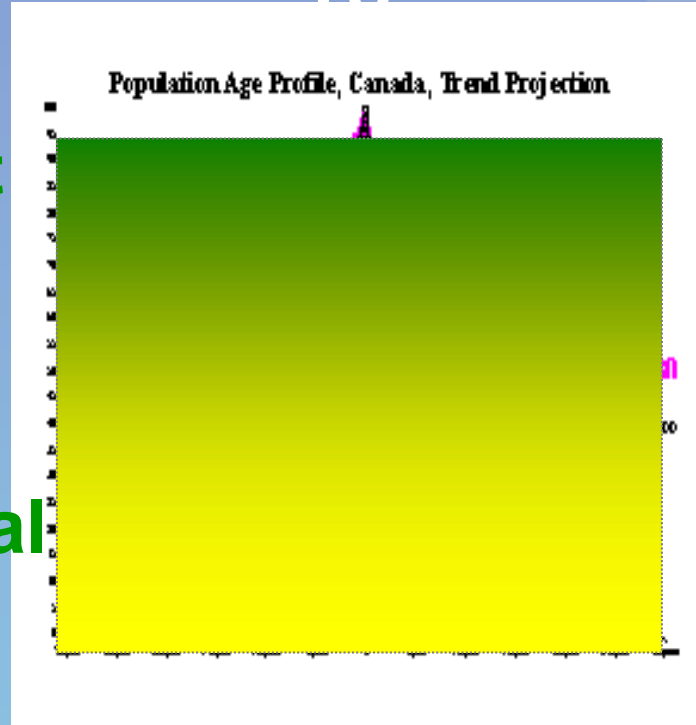
Agents

Hierarchical

Networks

1<sup>st</sup> Order

2<sup>nd</sup> Order



“Onward” or “Pioneering Again”

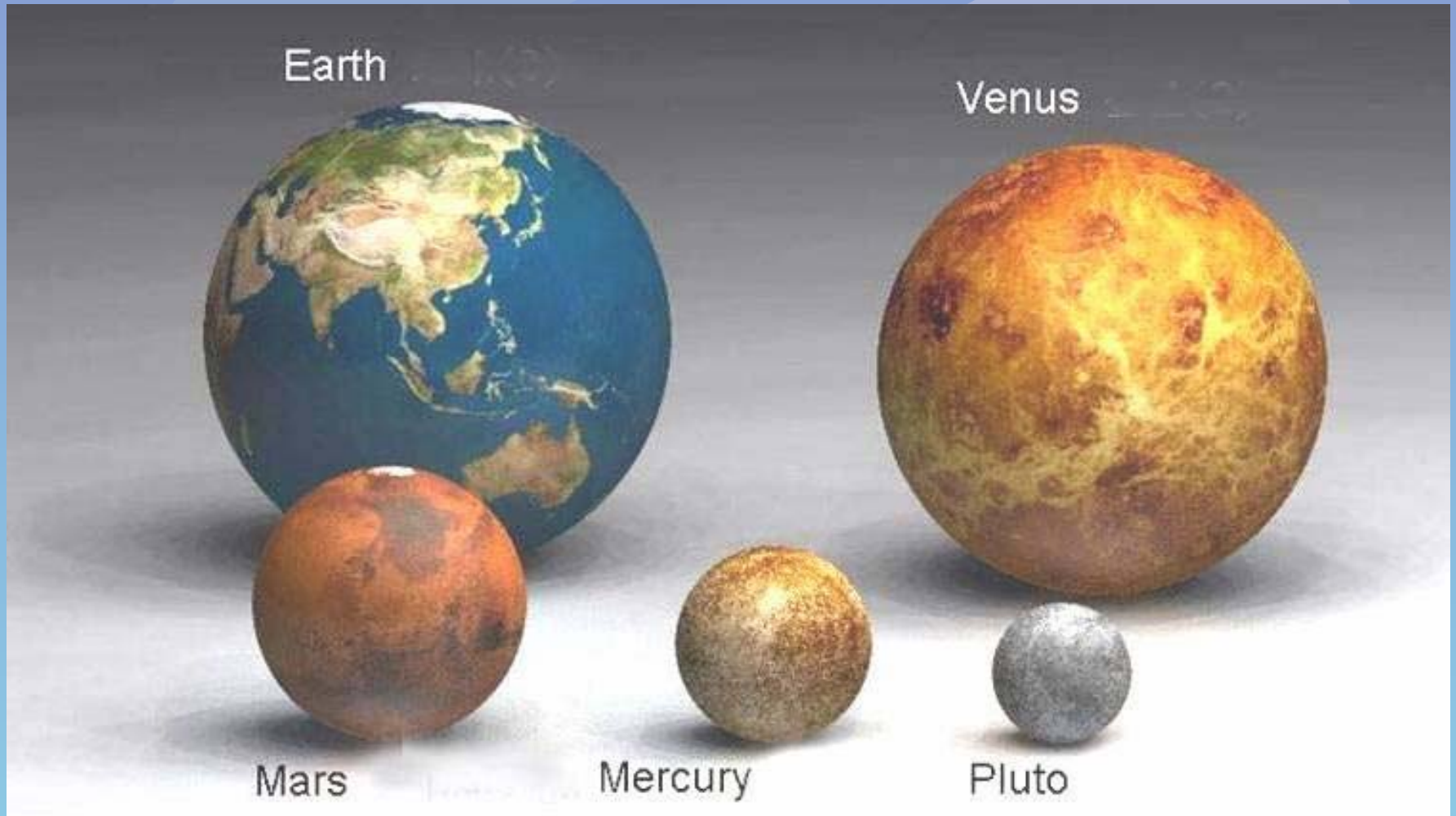
# Consciousness 1948

- Metaphors **Newtonian, Mechanistic, Static**
- Core experience **Human pace and scale**
- Community **Arises from proximity**
- Identity/Roles **Inherited, coherent and unchanging**
- Knowledge **Certainty, Authoritative**
- Org Forms **Hierarchical, Bureaucratic**
- Governance **Governors govern**
- Politics **Elite Accommodation**
- Education **Grade 8, 5% have degrees**
- At home **200 – 400 mile radius**
- In short **Secure, meaningful, 1<sup>st</sup> order world**
- Participation **Do one's duty, don't get uppity**  
**Follow leaders and rules, be brave**

**“Onward” or “Pioneering Again”**



# Globalization



# Globalization

---



# Globalization

---

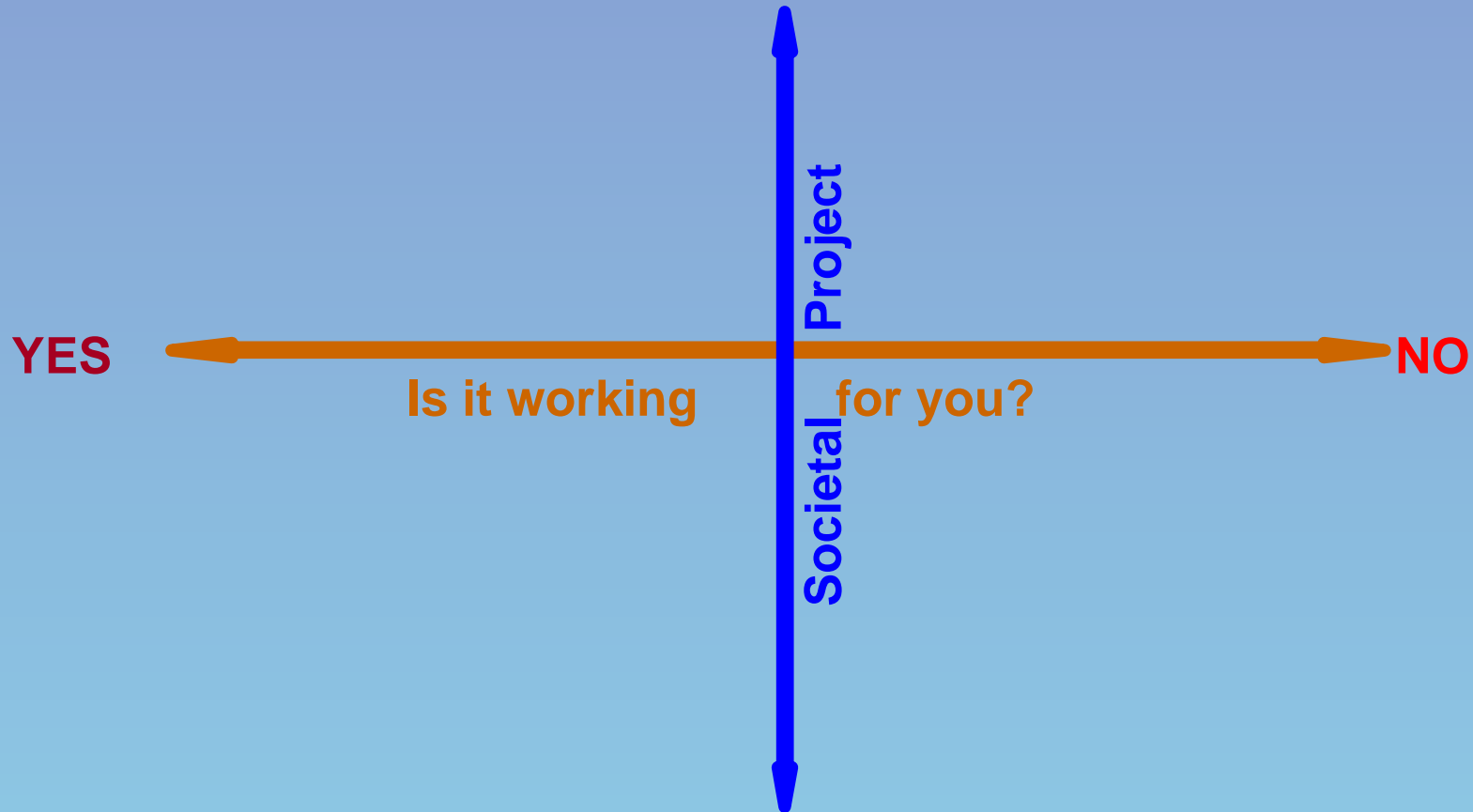
- We are stuck with each other. We live in each others' presence. There is no place to hide.
- All 6.5b of us live in and are shaped by cultures that are still essentially land-based and provincial.
- Globalization is mostly Westernization. AND we do not take different forms of human consciousness seriously.
- We are focussed on economic competition as if consciousness does not matter.

# Our Situation

---

## A Coherent Culture

It hangs together, holistic, no piece separate



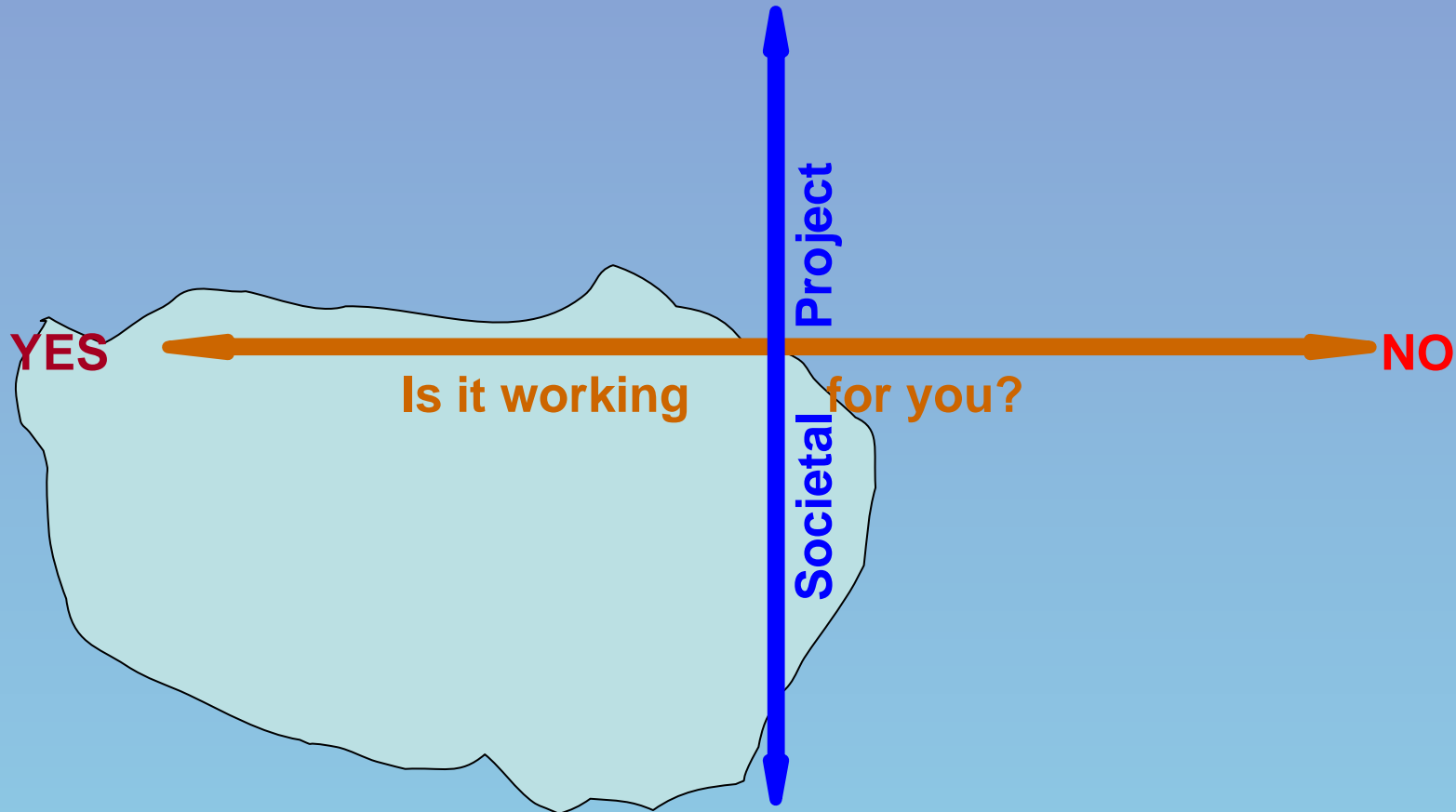
## A Richer Market-Driven Culture

Improve, Innovate, Short Term, Piece Meal

# Our Situation

## A Coherent Culture

It hangs together, holistic, no piece separate



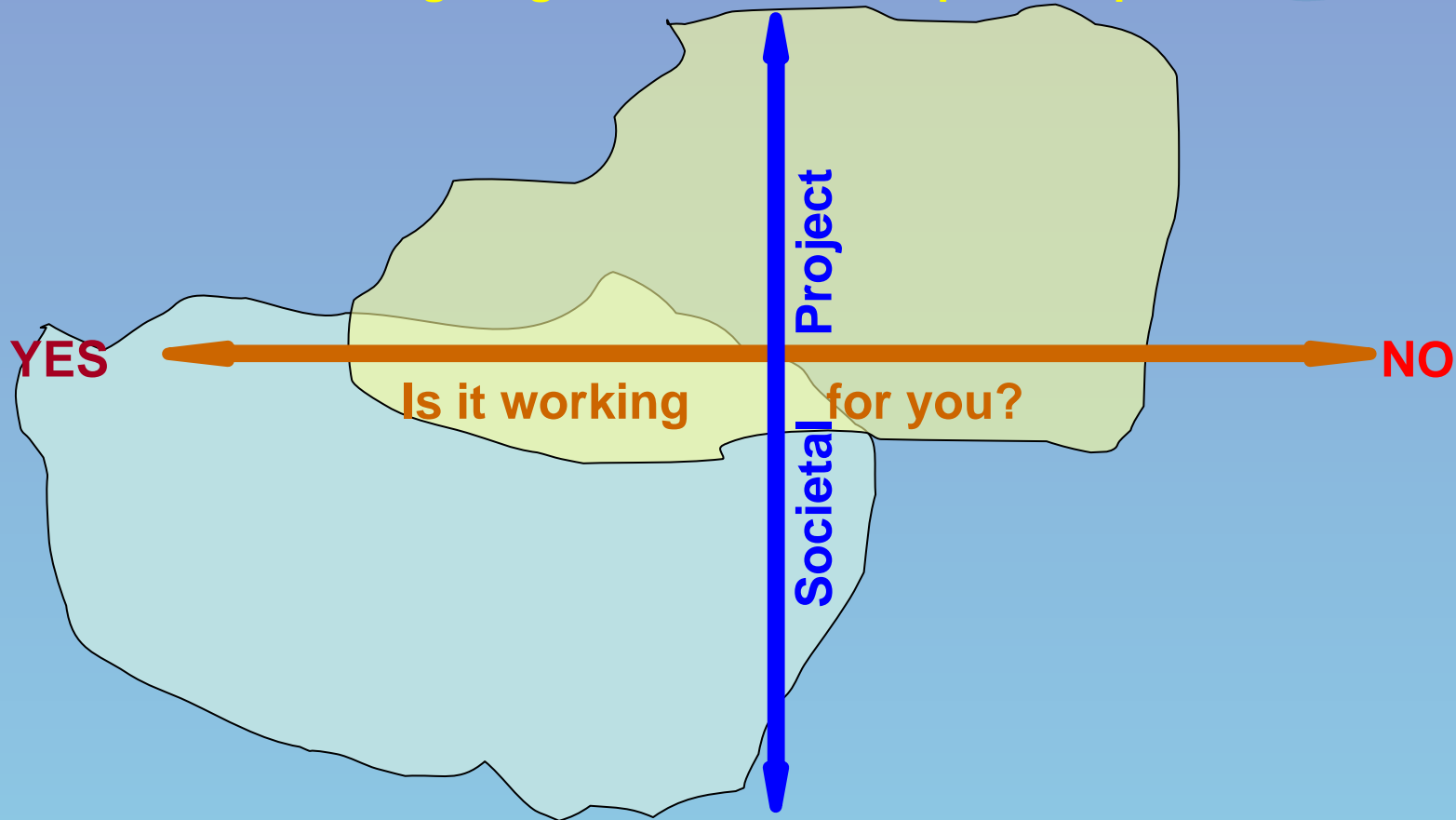
## A Richer Market-Driven Culture

Improve, Innovate, Short Term, Piece Meal

# Our Situation

## A Coherent Culture

It hangs together, holistic, no piece separate



## A Richer Market-Driven Culture

Improve, Innovate, Short Term, Piece Meal



**So What...**

---

# The Message

---

- The present is pregnant with far **more possibilities – for good and ill –** than we dream or imagine.
- We are still **unprepared** for most of them.
- We must become **far-sighted, broad-minded with a depth of judgement** in order to be prepared for whatever future we create.
- This is deeply satisfying, but hard, **hard work.**

# **The Core Work of the 21st Century**

---

**The most fundamental work in the 21<sup>st</sup> Century – for all persons, organizations and whole societies – is to become conscious architects and intentional co-creators of new ways of living that truly fit the unique conditions that are emerging in the 21<sup>st</sup> Century.**

# The Vision

---

**By 2025, Canada is acknowledged as the world's leading pioneer of 21<sup>st</sup> Century ways of living. We are admired around the world for our courageous and explicit commitment to this history-altering project...**

**We are a source of hope and encouragement...**

**We are partners of choice...**

**We are the most future-savvy and influential mid-sized jurisdiction in the world. The best of the world's best willingly come to live here in order to participate in pioneering a great 21<sup>st</sup> Century culture – a culture so exciting that our children and grandchildren have reasons to stay!**

# Inspiration

---

**The biggest things are always  
the easiest to do because  
there is no competition.**

**William van Horne**  
**Canadian Industrialist**  
**1843-1915**



# Over to YOU!

---

**Our Future is in Our Hands, Mind and Heart**

## Thank You!

# Contact

---

**Ruben Nelson  
Executive Director  
Foresight Canada  
29 des Arcs Road  
Lac Des Arcs, AB, Canada, T1W 2W3**

**1-888-673-3537 = voice**

**403-673-2114 = fax**

**[rubennelson@shaw.ca](mailto:rubennelson@shaw.ca)**