

An abstract painting with a complex, layered composition of geometric shapes and colors. The palette includes shades of red, blue, green, and white, with some darker tones. The brushstrokes are visible, giving the artwork a textured, expressive quality. The overall effect is one of dynamic movement and depth.

Futurism for Actuaries

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Today's Objective

*“What’s in a name? That which we call a rose by any other name would
smell as sweet.”*

Shakespeare, Romeo and Juliet

To introduce Futurism, and hopefully, have a sensory
experience of it.

Agenda

1. What are Futurism and Futurists?
2. Futurists and Actuaries
3. General Methodology of Futurism
4. Futurism Tools
5. Futurism for Actuaries
6. Futurism for Actuaries – Applications

Futurism and Futurists

Futurists - who do you think we are???

- not artists
- not about tin-foil hats and Sci-Fi movies
- but scientists and social scientists whose specialty is Futurism

Futurism is a relatively new discipline with multiple roots and a rich international diversity. There is even no consensus yet about a name of futurists' work.

- European futurists tend to use “prospective studies”
- Some prefer “future studies” or “futures research”
- Others like “futuresology”

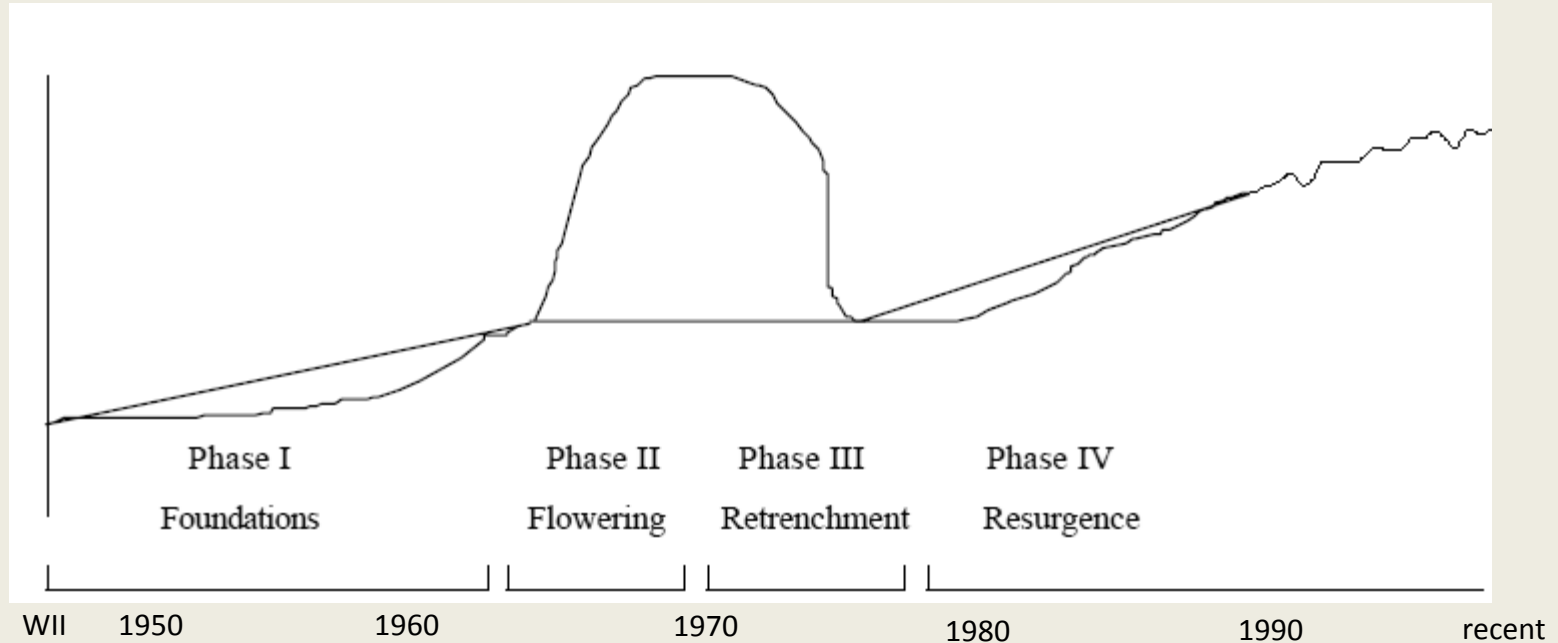


Futurism and Actuaries, Seriously!

- **Futurism** is a discipline that **systematically explores** what we can know about the **future of human systems**, and how we can use that knowledge to **attain desirable futures**.
- **Actuaries** are also concerned with the future of certain human systems, such as the insurance industry, corporate employee groups, health and social security systems, etc.

History of Futurism

Futurism has developed in four phases.



Key Features

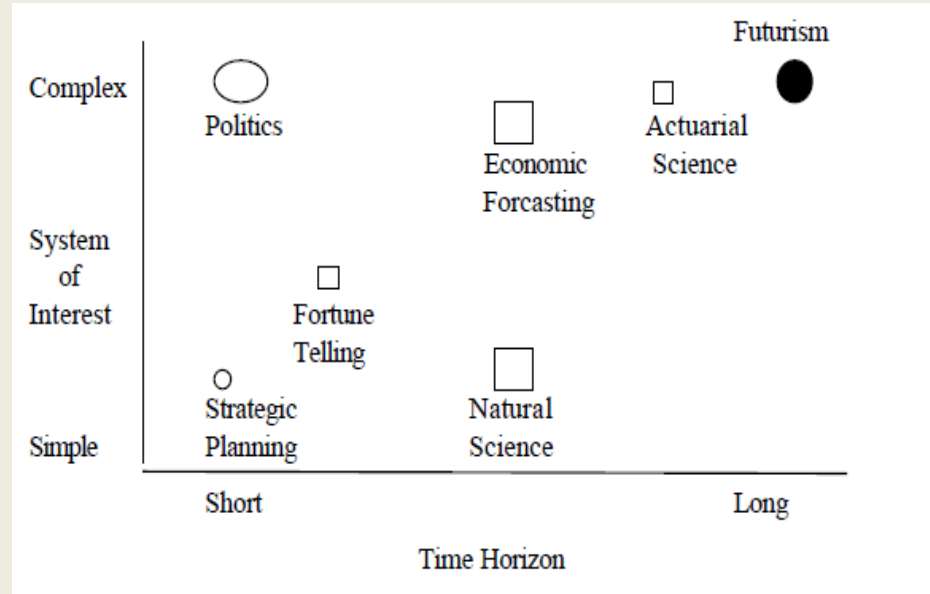
System of Interest: **Human Systems**

Time Horizon: **Very Long**

Domain of Observation: **Global**

Methodology: **Multidisciplinary**

Bias towards participation to achieve desirable futures



Methodology of Futurism

Steps of western medical diagnosis

1. Assess the current state of disease
2. Develop possible causes for that state
3. Select one cause for treatment
4. Treat
5. Evaluate the results
6. A cure or return to Step 3

Focus on the disease

vs

Steps of the applied futurism methodology

1. Assess the current state
2. Project alternative future states
3. Select preferable future states
4. Develop Plan
5. Implement Plan
6. Evaluate the results

Focus on alternative states of “better health”

Our System

"Toto, I've a feeling we're not in Kansas anymore."

Dorothy, The Wizard of Oz

Past paradigm shifts

- Refined UW with Preferred classes
- Rise of Term Life
- Rise of Variable Products
- Rise of DC plan
- Obama Care
- ERISA/RBC(C3Px)/ORSA/PBA
- Living To 150
- Predictive Modeling/Analytics and Big Data

Traditional Actuarial Approach

Traditional actuarial science is most useful for closed stable systems; that is, systems which have recurrent characteristics over a long period of time and which are more or less insulated from the impact of other systems.

Traditional actuarial approach, in such systems, relies on law of large numbers.

Traditional actuarial models, in essence, project historical aggregate patterns and “actuarial judgment” into the future - largely from a top-down perspective.

VS

The complex reality - the world of hurricanes and earthquakes, social reforms and economic upheavals, interest rate fluctuations, business cycles, and healthcare expenditure trends.

Futurism for Actuaries

Futurists

- Admit that the future of human systems are inherently uncertain
- Think it impossible to establish a closed system/model, to meet the assumptions of some "scientific" techniques
- Don't predict future with precision, but impact future with action.

Let us consider to
blend colors of **F**utur**i**sm in Actuaries' Work

Futurism Tools for Actuaries

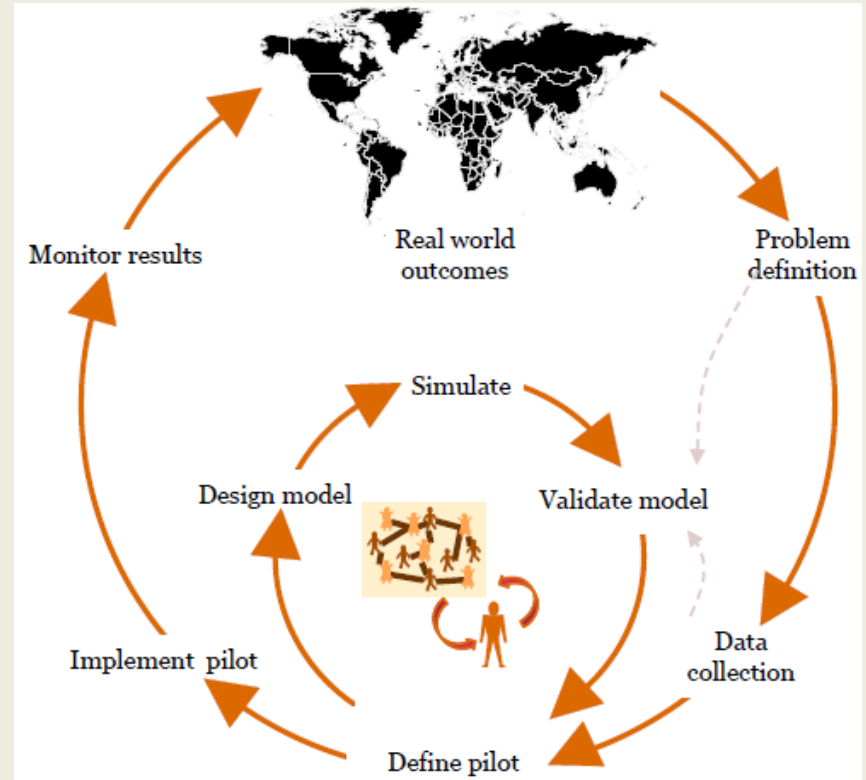
- Cross Impact Analysis
- Decision Modeling
- **Delphi Technique**
- Environmental Scanning
- Futures Wheel
- Gaming and Simulation
- Genius Forecasting
- Relevance Trees
- Systems Dynamics
- Trend Impact Analysis
- Visioning
- Artificial societies
- Complexity science
e.g. agent based model

Next, 3 Applications.

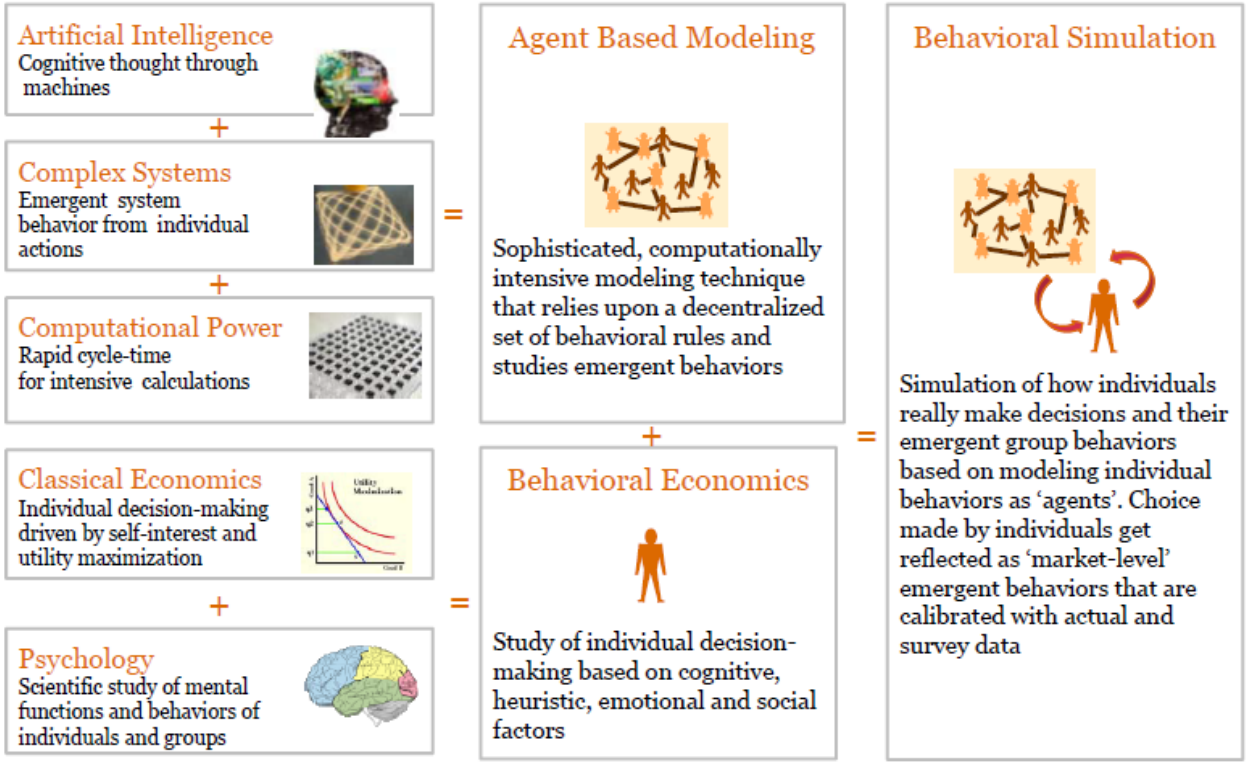
App 1 - Agent Based Modeling (a)

ABM simulates agents' (e.g., individuals and companies) interactions with their environment and other agents in order to understand the emergent behavior of complex systems.

A bottom-up approach!



App 1 - Agent Based Modeling (b)



ABM helps understand

- Strategy & Growth
- Marketing & Sale
- Product Development & UW
- Process & Operation
- Inforce Management
- Capital, Risk & Finance

App 2 – Renaming of the Section (a)

Old name - Forecasting & Futurism

Forecasting acknowledges our commitment to introducing actuaries to new quantitative tools and methods successfully used outside of our profession to forecast or predict future events.

&

Futurism recognizes that numbers alone won't help us reach our goal.

Reasons for renaming

- What's in a name?
- Relevance to tin-foil hat?
- For greater attention and perceived relevance our ongoing efforts
- Aligned to SOA's vision

App 2 – Renaming of the Section (b)

Tasked to Delphi for collaborative, credible and creative exploration of ideas

- Use Structured Consultation to solicit opinions
- Input from controlled group feedback
- Output is collective group judgment

Led by: Dave and Gloria Snell

Participants: Council members and friends

Timeline: 3 rounds + Final/3 months

Process and Forerunners

Round 1 – Forecasting & Futurism

Round 2 – Forecasting & Futurism

Round 3 – Forecasting & Futurism

Final Round – convergence!!!

A tragedy story for F & F (2009 – 2015.9)

My girlfriend (the section) gets married;

The groom is not me (F&F)

Who stole the bride? PAF (2015.9 -)

- Predictive Analytics replaces Forecasting
 - Futurism prevails

App 3a - Blue Ocean Strategy for Insurers

In Feb. 2009, ten "Blue Ocean Strategies" were investigated by Society of Actuaries using Delphi Study:

Strategy #1: Earth Friendly Insurance Company – “Paperless Processing”

Strategy #2: Super-Fast Insurance Company – “Quantum leap in time to market”

Strategy #3: Insurance W/O Borders Co. – “Global internet sales where regulations allow”

Strategy #4: Global Insurance Company – “Global data mining, marketing”

Strategy #5: Your Way Insurance Company – “Prospects custom-design coverage online”

Strategy #6: Strategic Partners Insurance Company – “For Operational Excellence”

Strategy #7: Just What You Want Insurance Company – “Micro-policies”

Strategy #8: Holistic Insurance Company – “Risk ‘agents’ help mitigate all risks”

Strategy #9: Big Brother Insurance Company – “Monitor individuals’ health, risk profile”

Strategy #10: Virtually Real Insurance Company – “Virtual World Insurance”

App 3b - Blue Ocean Strategy for Actuaries

Let us pause to futurize ourselves

- ERM actuaries
- Investment actuaries
- General Insurance actuaries (for SOA members)
- Delphi actuaries
- ABM actuaries
- Data Scientist actuaries
- Visionary Actuaries
- etc...

When back to future, do we smell just as sweet (as rose)?

Additional References

“Abstract Speed + Sound”, Giacomo Balla, 1913–1914 (cover picture)

“What’s in a Name?” Snell, F&F Newsletter, issue 5, 2012

“What’s in a Name?” Abalo, F&F Newsletter, issue 9, 2014

“Complexity Science - An introduction (and invitation) for actuaries”, Mills, SOA Special Report, 2010

Questions?

Please visit us at

<https://www.soa.org/predictive-analytics-and-futurism/>