Anticipating Disruptive Change in Real World Complex Systems With Futures Research

Annual meeting of the Society for Chaos Theory in Psychology & Life Sciences (SCTPLS)

San Marcos, TX

July 24, 2010

Oliver W. Markley, PhD
University of Houston-Clear Lake
InwardBoundVisioning.com

Constance D. Porter, PhD
St. Edward's University

Ver. 2.0

Workshop Overview

- Introduction

- Historical background & references

- Methodological underpinnings & relevant concepts of "futures research"

- Anticipation of disruptive surprises in real world, complex systems

- Illustrative exercise and/or participative discussion
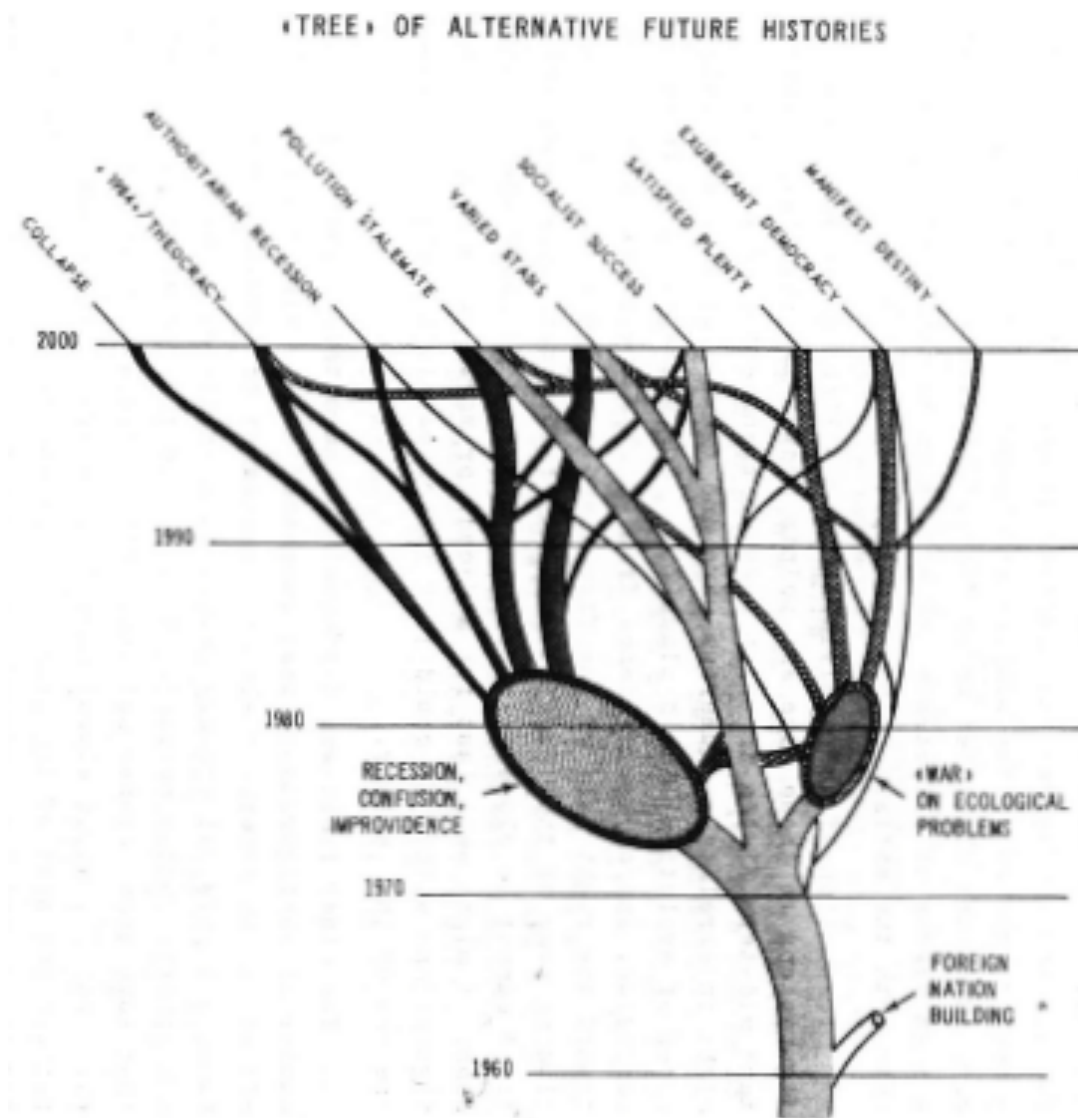
- Conclusion and full references

Who are you?
Why are you here?

- Theoreticians – wanting to know enough methodological details about futures research to envision how to use it in your work

- Practitioners – more interested in what the future looks like to futurists, and how this may impact your work

- Just have a good time exploring some new ideas without getting too technical

Relevant Concepts

- Plausible & Probable vs. Preferable Futures

- Predictive vs. Alternative Futures Forecasting & Scenarios

- Directional vs. Strategic Planning

- Emerging "STEEP" Trends, Issue Identification and Impact Assessment

- Anticipation of Disruptive Surprises ("Wild Cards")

- Rational Analysis ~ Intuitive Visioning
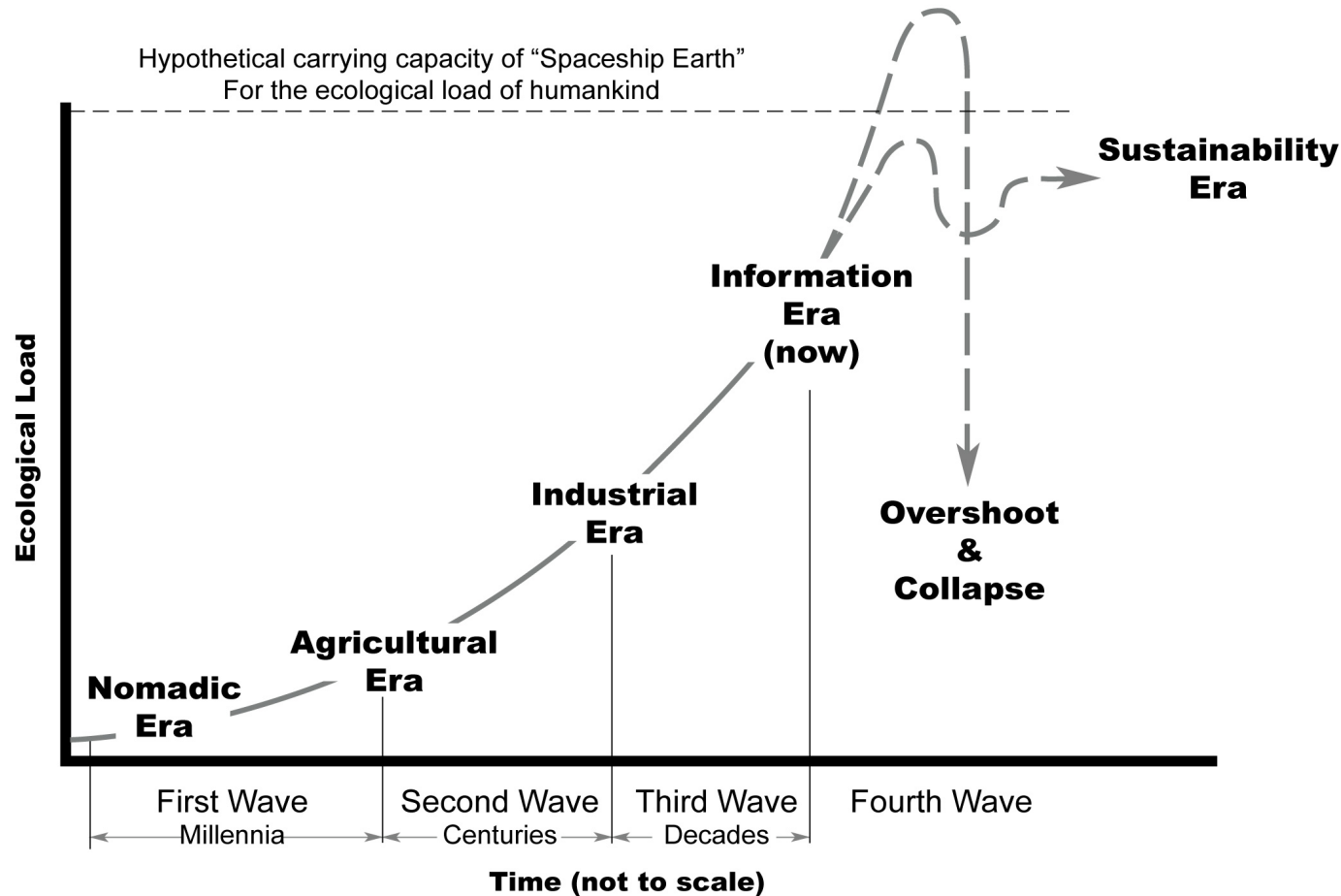
Historical Background

‹TREE› OF ALTERNATIVE FUTURE HISTORIES

Source: Harman, Markley & Rhyne, SRI (1973)

«SLICE» OF FIGURE 12 AT YEAR 2000
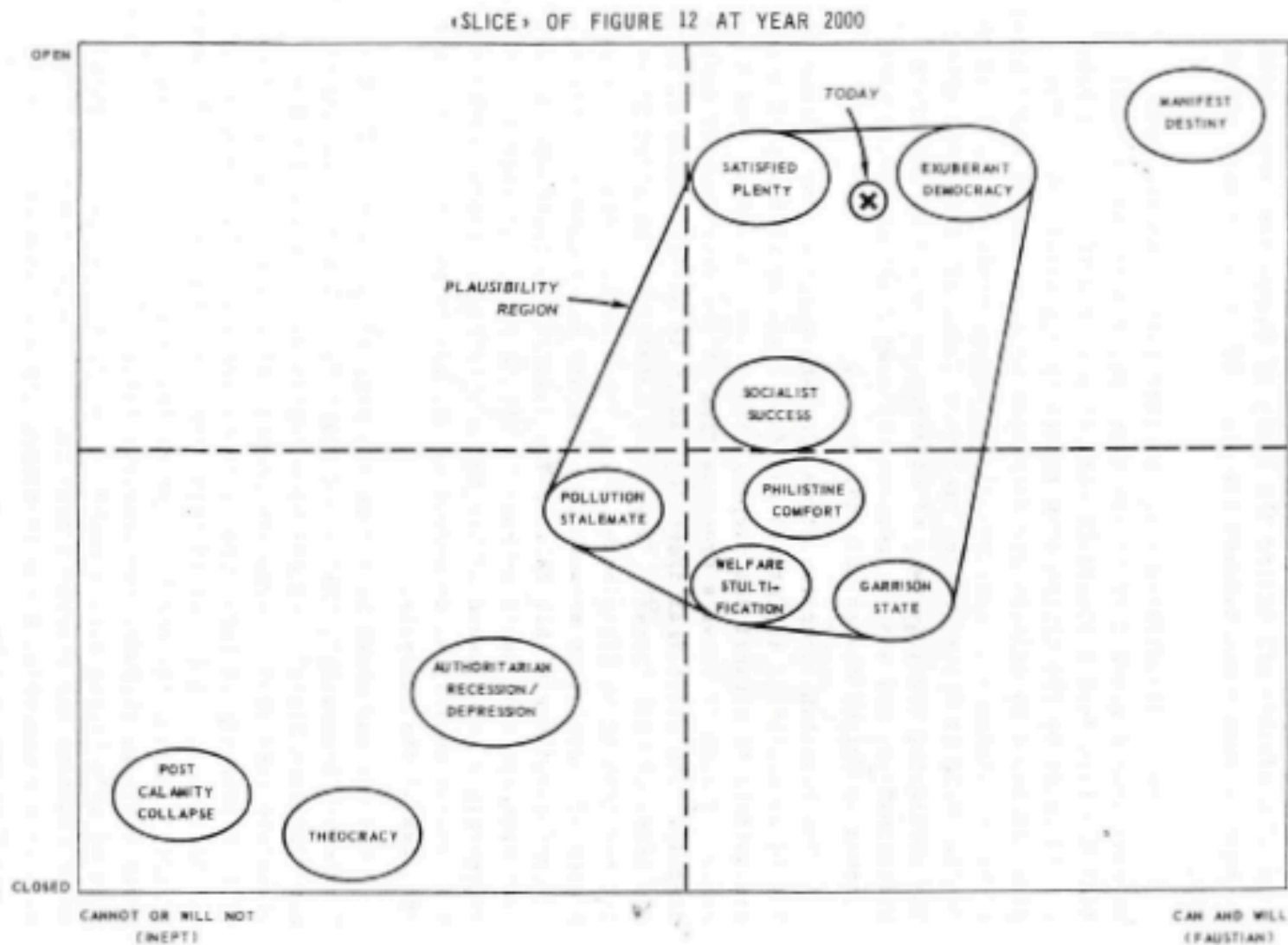
Source Harman, Markley & Rhyne, SRI (1973)

Disruptive Overshooting of Carrying Capacity?

Hypothetical carrying capacity of "Spaceship Earth"
For the ecological load of humankind

Sustainability Era

Information Era (now)

Overshoot & Collapse

Industrial Era

Agricultural Era

Nomadic Era

Ecological Load (vertical axis)

First Wave	Second Wave	Third Wave	Fourth Wave
Millennia	Centuries	Decades	

Time (not to scale)

Source: Oliver Markley, "The Future of SpaceShip Earth" (1995)

8

Anticipating Disruptive Surprises (a.k.a. "Wild Cards")

- Type I : Low Probability, High Credibility

- Type II: High Probability, Low Credibility

- Type III: High Probability, Disputed Credibility

- Type IV: High Probability, High Credibility

Source: Oliver Markley, "A New Methodology for Anticipating Disruptive Surprises."
Submitted to the *Journal of Technology Forecasting & Social Change,* July, 2010

Two Type II "Tipping Points"
Toward Disruptive Social Systems Change

10
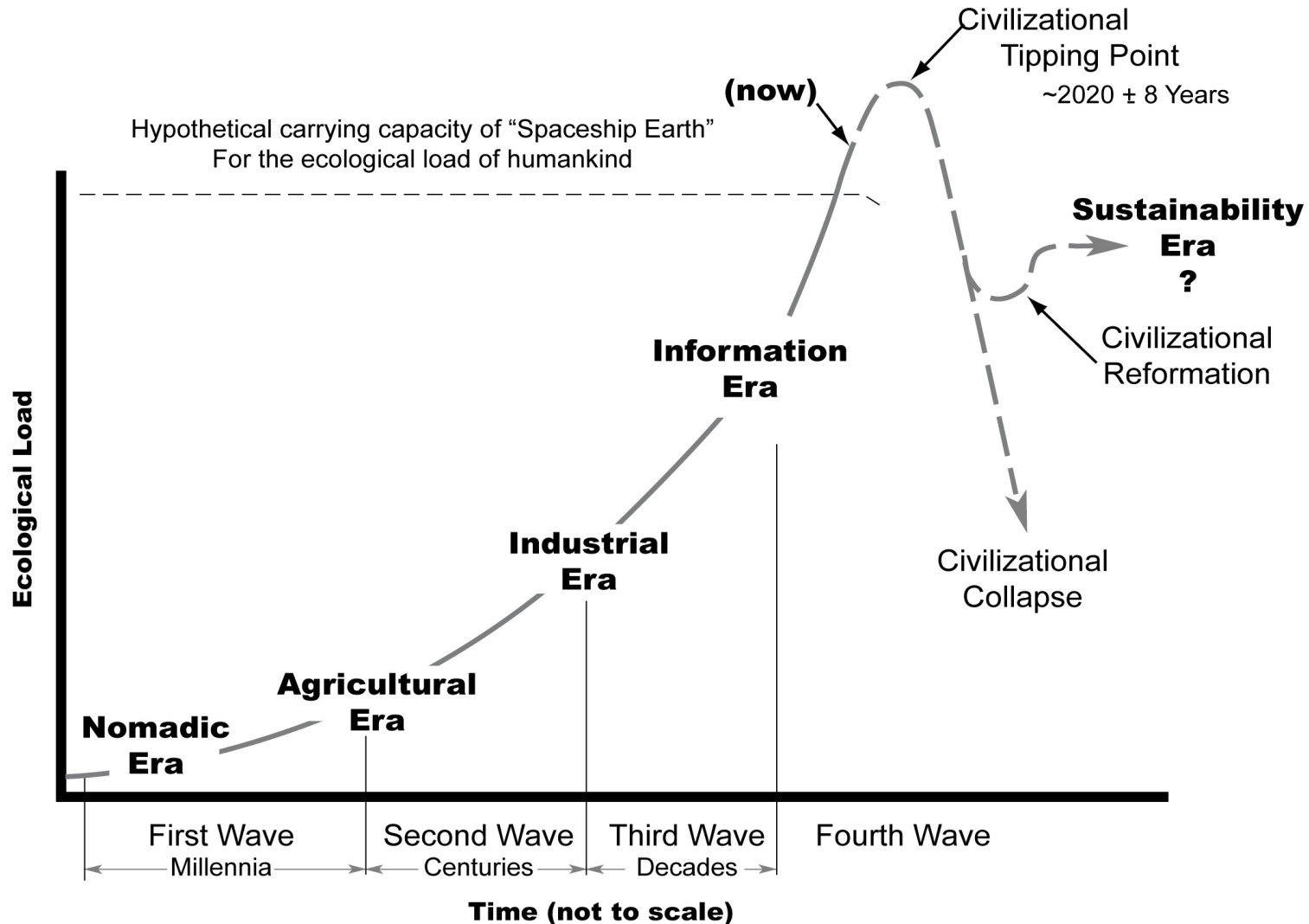
Financial "Bubbles" Currently Threatening Global Financial Meltdown ~ 1-3 Years

Virtuous upward cycle of past few decades replaced by vicious downward spiral resulting from *co-lined* bubbles:

- Real estate bubble

- Stock market bubble

- Discretionary spending bubble
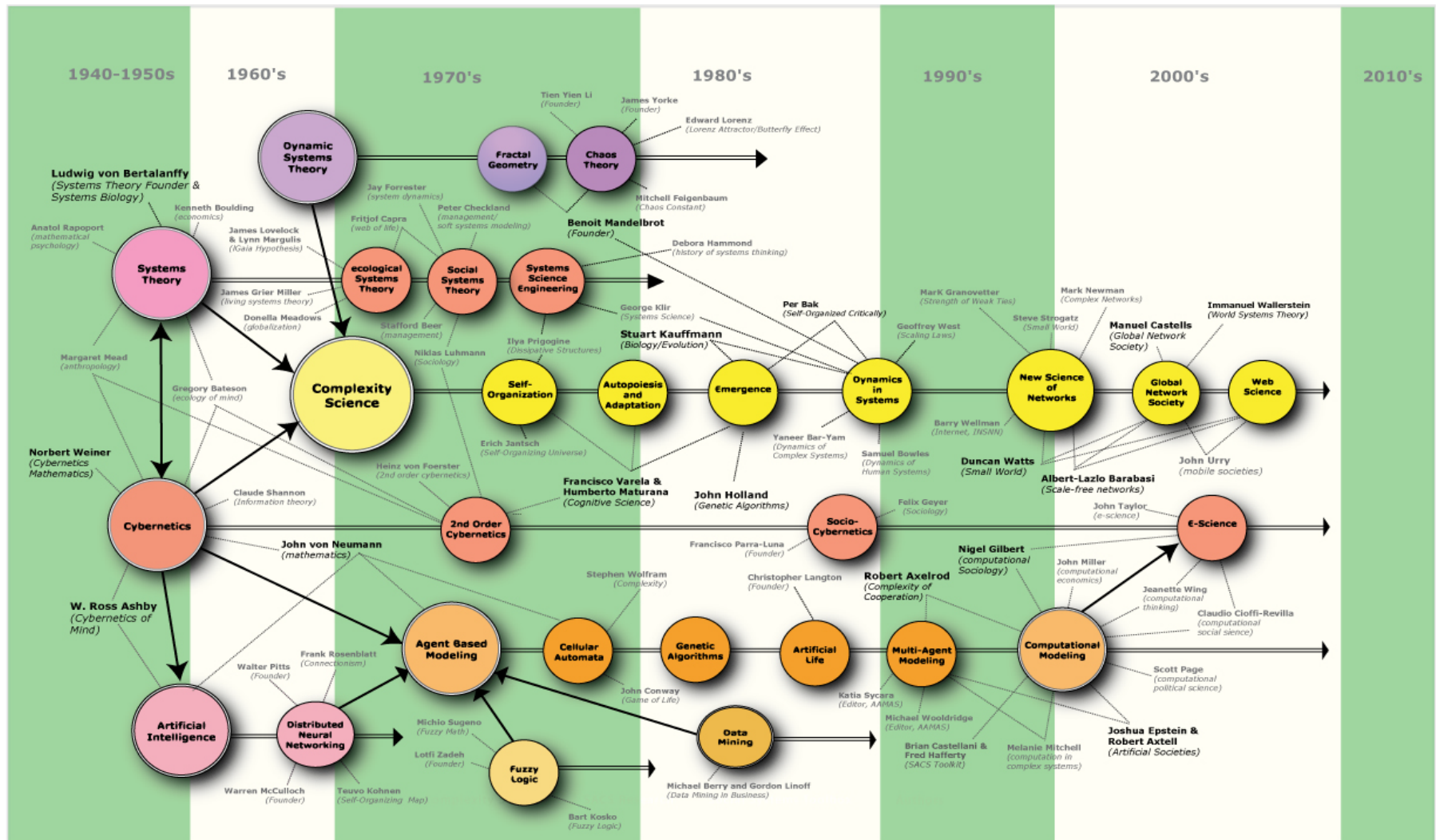
- Dollar bubble

- Government debt bubble

Why would there be a dollar bubble before a gov't debt bubble? Multi-bubble economy cannot be easily reflated.

SOURCE: *Aftershock* (2010), Wiedemer, et al,

Key Sources: Anticipating Near Term, Large Scale, Social System Disruption

- Tipping point toward Civilizational Collapse, from *Plan B 3.0 & 4.0: Mobilizing to Save Civilization* by Lester Brown

- Why the trigger may be financial: *Aftershock*, by David Wiedemer, et al, who predicted the first financial meltdown. [*]

- Tipping point toward Civilizational Reformation: *Blessed Unrest: How the Largest Movement in the World Came in the World Came into Being and Why No One Saw it Coming*, by Paul Hawken

- Complexity and Collapse: Empires on the Edge of Chaos, *Foreign Affairs,* by Neill Ferguson

- Complexity Science: Implications for Forecasting, *Technology Forecasting & Social Change,* by Harold Linstone

- A New Intelligence Methodology for Anticipating Disruptive Surprises, (unpub), by Oliver Markley
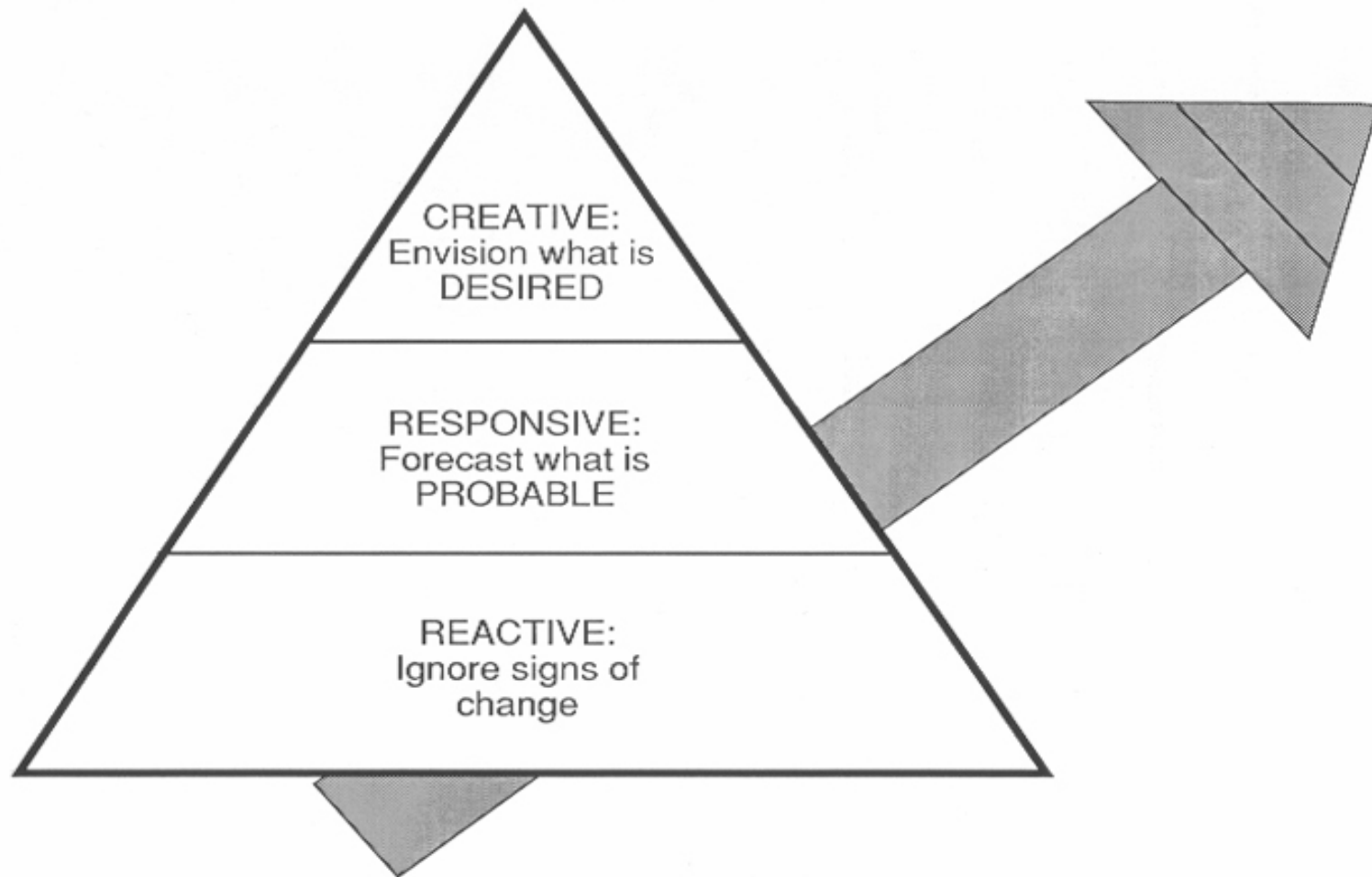
Complex Adaptive Systems
& Complexity Science ~ Forecasting

Methodological Underpinnings of General Futures Research

Three ways to Influence the Future

CREATIVE:
Envision what is
DESIRED

RESPONSIVE:
Forecast what is
PROBABLE

REACTIVE:
Ignore signs of
change

Source: Lloyd Walker, Precurve LLP
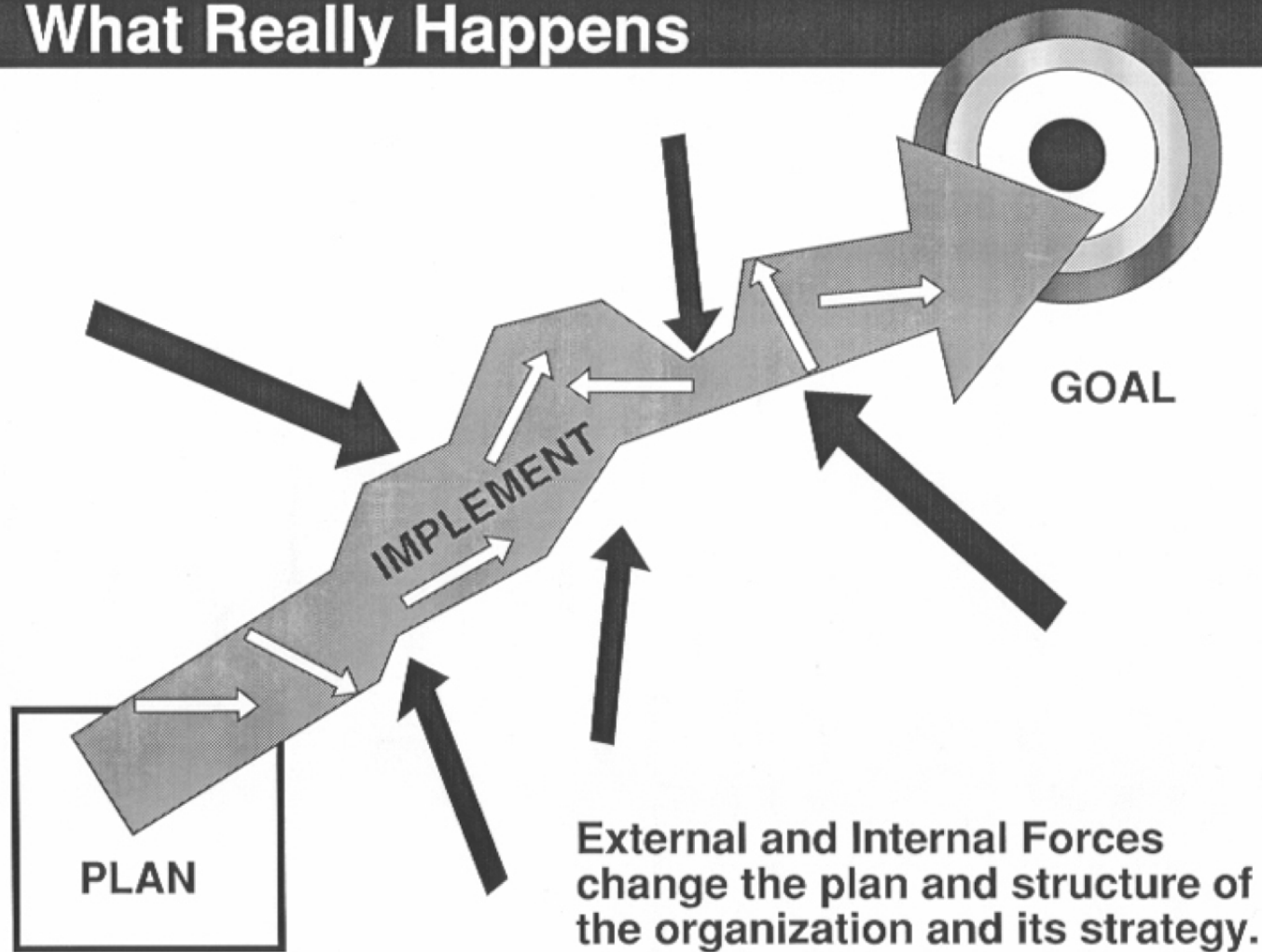
The Old "Ideal" Process

(What we wish would happen)

GOAL

IMPLEMENT

PLAN

Source: Lloyd Walker, Precurve LLP

16
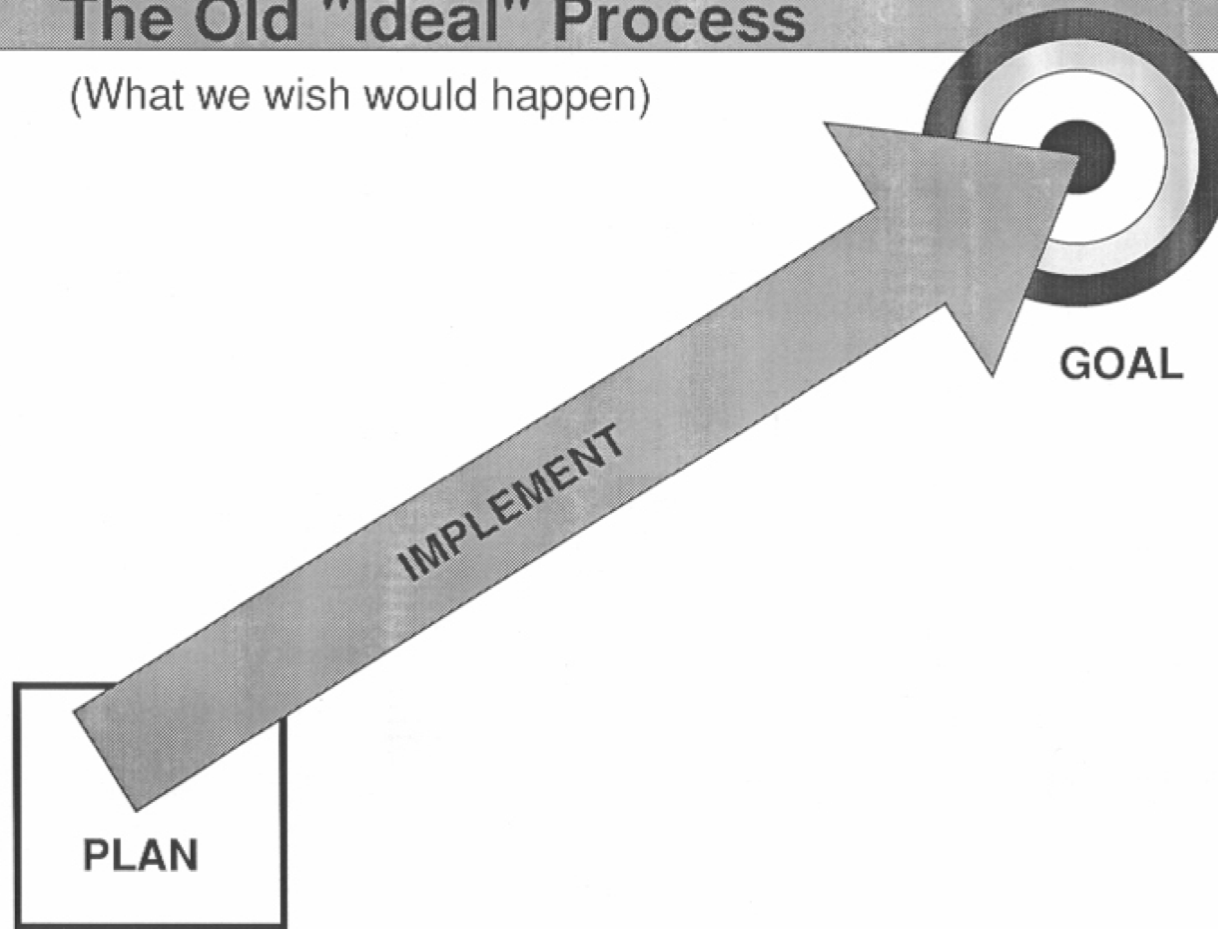
Source: Lloyd Walker, Precurve LLP

Situational Intelligence:
Matching the Type of Management Information
Strategy to the Characteristics of the Situation

**Ability to *control*
the issue being
considered**

	High	*Low*
Near (high)	I	II
Far (low)	III	IV

**Planning time horizon,
relative to degree of
environmental
turbulence (that is,
forecasting accuracy)**

Situation I   *Management Information Systems*

       Indicators of the Status Quo

Situation II   *Predictive Forecasting*

       Expectations of the "most likely" future

Situation III   *Long-Range Planning*

       Longer-term projections of influences, activities, and
accomplishments

Situation IV   *Strategic Methods*

       Alternative futures forecasts, contingency plans,
situational management strategies

Three Modes of "Strategic Methods" (Quadrant IV)

Mode I – *Alternative Futures Research*

Alternative forecasts, scenarios, contingency plans, "normative" (preferred future) forecasting

Mode II – *Strategic Foresight*

Add strategic planning, environmental scanning, "issues management"

Mode III – *"Disruptor" Anticipation*

Add systems modeling and stability assessment, scanning for and credibiliity assessment of fringe viewpoints

Next? – *Anticipation of Instability* in Complex Adaptive Social Systems (CASS) as a recognized futures research methodology?

Essential Futures Methodologies & Skill Sets

SPECIFIC METHODOLOGY	WHICH INVOLVES	AND LEADS TO
ISSUES MANAGEMENT	Scanning for STEEP developments (i.e., Social/Demographic, Technological, Economic, Ecological, and Political trends, issues, threats, and opportunities)	• Identification of "Critical Success Factors" having make or break significance for mission accomplishment • "Positioning," lobbying, internal and external media communications • Scenario writing, monitoring and/or use of other methods on this page
MODELING, FORECASTING and ASSESSMENT	Trend extrapolation, modeling of dynamic systems, and technology/ policy impact forecasting and assessment	• Foresight about trends and impacts of key "Change Drivers" • Visualization of preferred paths and targets for R&D, marketing, etc.
STRATEGIC PLANNING	Strategic visioning, competitive assessment of strengths and weaknesses, visioning of alternative futures scenarios and contingent agenda	• Long-range corporate or departmental vision, mission, strategies, programs
ORGANIZATIONAL CHANGE FACILITATION	Project visioning, planning and coordination, competency and team building, organization transformation	• The capacity to successfully implement the above

Six Fundamental Guidelines for Strategic Foresight
(Applied Futures Research)

1. Framing

    1.1 **Adjust attitudes**

    1.2 **Know the audience**

    1.3 **Understand the rationale and the purpose**

    1.4 **Set objectives**

    1.5 **Select your team**

    1.6 **Create a strategic work environment**

2. Scanning

    2.1 **Map the system**

    2.2 **Study history**

    2.3 **Scan the environment**

    2.4 **Involve both colleagues and outsiders**

3. Forecasting

    3.1 **Identify drivers and uncertanties**

    3.2 **Choose forecasting tool(s)**

    3.3 **Diverge—generate ideas**

    3.4 **Converge—prioritize ideas**

    3.5 **Form alternative futures**

4. Visioning

    4.1 **Identify implications**

    4.2 **Challenge assumptions**

    4.3 **Think visionary**

5. Planning

    5.1 **Think strategically**

    5.2 **Develop strategic options**

6. Acting

    6.1 **Communicate results**

    6.2 **Create an action agenda**

    6.3 **Create an intelligence system**

    6.4 **Institutionalize strategic thinking**

Source: *Thinking about the Future: Guidelines for Strategic Foresight,* Andy Hines & Peter Bishop (Eds), 2006

Review of Relevant Concepts
(as time permits)

- Plausible & Probable vs. Preferable Futures

- Predictive vs. Alternative Futures Forecasting & Scenarios

- Directional vs. Strategic Planning

- Emerging "STEEP" Trends, Issue Identification and Impact Assessment

- Anticipation of Disruptive Surprises ("Wild Cards")

- *Rational Analysis ~ Intuitive Visioning*

A Synthesis Methodology
for Anticipating Disruptive Surprises in
Complex Adaptive Social Systems (CASS)

- Rational analysis: "Snowball" Survey

- Intuitive visioning: "Imaginal Time Travel"

                                    (Remote Viewing)

Snowball Survey

1. Start with a coherent question [about "X"], and a reason for wanting to know that is sufficiently credible that it will motivate potential respondents to share unpublished, and often sensitive information

2. Identify a small sample of particularly knowledgeable people

3. Ask of each:

   a) What do you know about "X"?

   b) Who else should I ask about "X"— in particular, really bright people at the fringes of or beyond the currently dominant paradigm?

➢ Reiterate, refocusing inquiry as needed, based on what is learned.

Imaginal Time Travel

1. Choose focus of exploration ("X"), together with relevant contexts(e.g., potential CASS disruptors; or strategic decisions to assess) to frame the exploration

2. Relax and Center entire being into a "non-local" level of consciousness

3. Assume ("take on") specific context (e.g., a given strategy or decision) re: "X" to be explored

4. Using external guidance for navigation, imaginally explore the future of "X" assuming that specific context

5. Redo Steps 4 and 5 with each context of interest

6. Review all that was experienced, and draw conclusions for decision and/or action.

Source: Oliver Markley, Mental Time Travel: A practical business and personal research tool for looking ahead

Imaginal Visioning

Two Contrasting Modes of Action Clarifying the Meaning of *Imaginal Visioning*	
Active Volition/Willful	Passive Volition/Willing ("Letting")
Expressive	Receptive
Yang	Yin
Imagination	Intuition
Visualizing	Visioning
Imaginary	*Imaginal*

Source: Oliver Markley, *Guidebook for the Imaginal Manifestation (IM) Process*

Billiard Ball ~ Cornucopia Causality

Source: Oliver Markley, *Guidebook for the Imaginal Manifestation (IM) Process*

The "Akashic Field" as source gateway for "Cornucopia Causality"

- *Science and the Akashic Field: An Integral Theory of Everything,* by Ervin Laszlo (2004)

- *The Akashic Experience: Science and the Cosmic Memory Field,* by Ervin Laszlo, Ed, (2009)

An Illustrative Disruptive Surprise for SCTPLS

"Hallucinations in Hospital Pose Risk to Elderly"

(New York Times, June 20, 2010,by Pam Belluck)

A largely unreported pandemic of delusional breakdowns among elderly is occurring in hospital situations involving conditions suggestive of non-linear complex adaptive system (CAS) collapse, aggravated by severe loss of personal control and understanding.

"Futures Wheel" for Impact Assessment

Tool: Futures Wheel
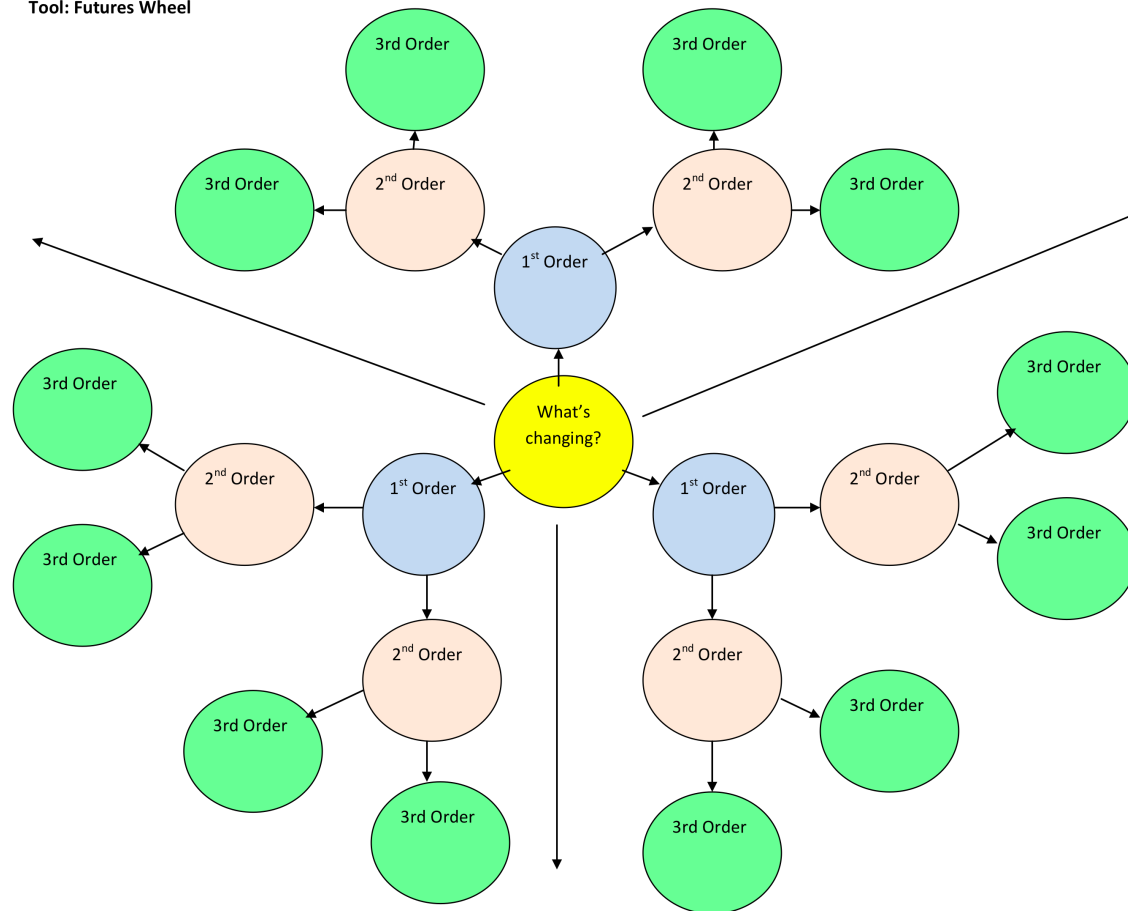
Options for an Experiential Exercise

- Explore implications for SCTPLS of a disruptive surprise such as the "delusion pandemic" among elderly in hospitals

- Explore *Imaginal Time Travel* for visioning of possible disruptions complex, adaptive social systems (CASS)

- Just talk...

Conclusions

- Futures Research as a general discipline may be of interest to scholars and practitioners of chaos and complexity theory in psychology and the life sciences.

- But it may have *exceptional* promise as a way to identify potential disruptive changes in complex, adaptive social systems—personal to global.

- What do you think?