

# Systems Thinking & Problem Solving:

(Understanding Our Most Important Messes)

Personal Mastery & Winning Strategies  
Self-fulfilling Prophecies, Mental Models

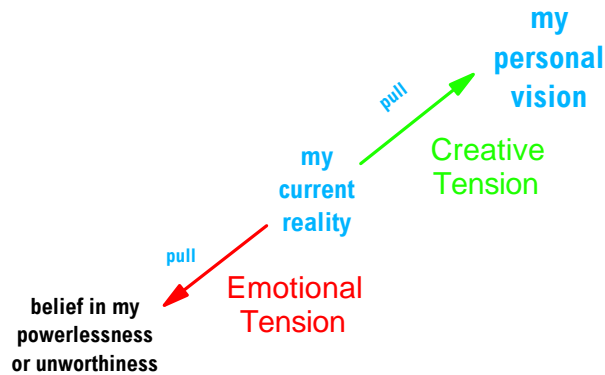
MGM-315 05/19/04

Bob Powell, Ph.D., MBA  
Continuous Improvement Associates  
Tel: 599-0977, E-mail: scuba@usa.net  
Web: <http://www.exponentialimprovement.com>

# Personal Mastery

## Personal Mastery

A person's ability to hold creative tension



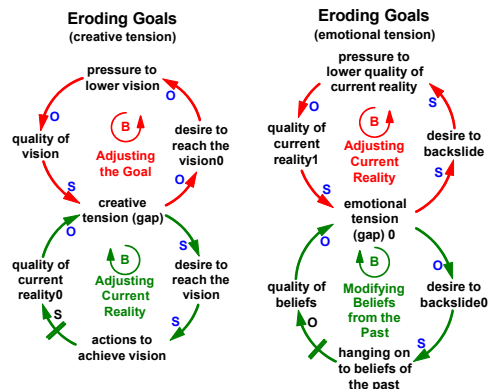
## Values, Purpose & Vision

### ■ Vision includes\*:

- Core Ideology (... preserve the core)
  - Core values
  - Core purpose (mission)
- Envisioned Future (... stimulate progress)
  - A major 10-30 year goal, a hoped-for outcome (a BHAG for "Big, Hairy, Audacious Goal")
  - "vivid description" of the desired outcome and/or vehicle (company) to convey a picture charged with emotion
- Provides inspiration and guidance for alignment

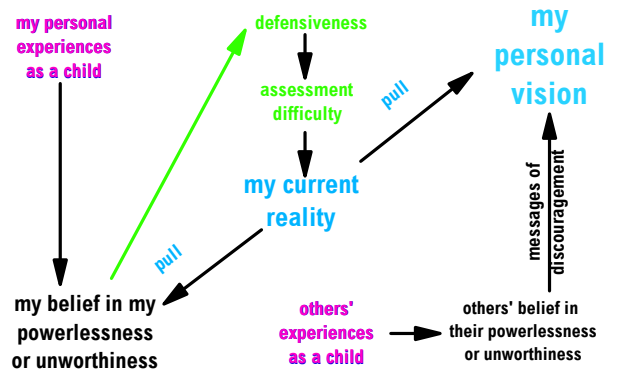
\* Collins & Porras, "Building Your Company's Vision," *Harvard Business Review*, Sep/Oct 1996

## Two Ways to Relieve Creative Tension



## Personal Mastery

Factors in our ability to hold creative tension



## Wisdom

- **"Logic is the beginning of wisdom, not the end."**

Mr. Spock in Star Trek IV: The Undiscovered Country

- **"... logic is the easy part, and only the beginning. Wisdom consists more of compassion than of logic, and it's truly the hard part. But if we are to respect and care for those whose lives we change (as managers, consultants and teachers), we must be above all compassionate. We may survive faults in thinking, but we cannot survive without awareness of, and sympathy toward, others."**

David E. Birren, 14 Apr 1995  
Wisconsin Dept. of Natural Resources  
Bureau of Management & Budget

## Feedback Loop Structure

- **"Various critics have asked that the generality of feedback loop structure be proved.**
- **Such a request fails to recognize that this class of theory is not subject to positive proof.**
- **Once the theory has been stated and a range of acceptable examples are given, the only possible proof is negative.**
- **If one can show an important and purposeful decision which is not imbedded in a feedback loop structure, then the generality is destroyed.**
- **At M.I.T. we customarily assign to doubting students the problem of finding some conscious or subconscious decision which they themselves make which is not significantly imbedded in a feedback relationship.**
- **So far the challenge stands intact."**

Jay Forrester, "A Response to Ansoff and Slevin", Management Science 14, #9, 5/68

## Progress

- **"Allez en avant, et la foi vous viendra."**

- **"Push on, and faith will catch up with you."**

Jean-le-Rond D'Alembert, 1717 - 1783

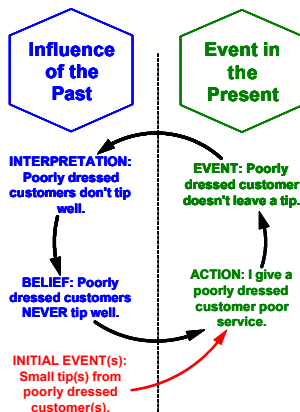
(Advice to those who questioned the calculus.)

## Behavior Based on the Past

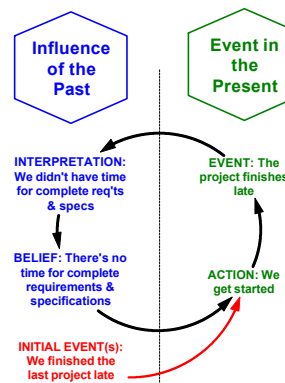
- **"In stressing the force of history on an organization,**
- **I have drawn from the legacies of European psychologists**
- **who argue that the behavior of individuals is determined primarily by past events and experiences,**
- **rather than by what lies ahead."**

Larry E. Greiner, "Evolution and revolution as organizations grow," Harvard Business Review, May-June 1998, p. 55

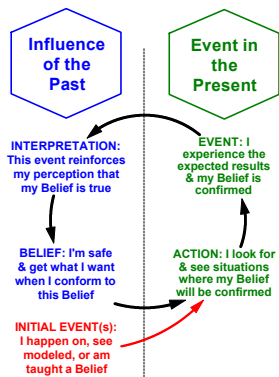
## An Example of How It Works



## A Project Management Example Time for Requirements Def & Specs



## How Beliefs Are Formed



## Belief

- "A belief is not an idea that the mind possesses,
- a belief is an idea that possesses the mind."

Robert Bolt

## Confirmation Bias

- We seek evidence consistent with our prior beliefs
- Wade Boggs
  - 5 American League Batting Championships
- Dr. Benjamin Rush
  - Professor at first medical school in America
  - Signer of Declaration of Independence
- Tracking in schools
  - 1968 study
- Ozone hole
  - papers in 1974, evidence 1985, Nimbus 7 satellite in 1978?

John Sterman, "Learning in and about complex systems,"  
System Dynamics Review, Summer-Fall 1994

## Changing Beliefs

- "Faced with the choice of changing one's mind and proving one doesn't need to do so,
- ... we get busy on the proof."

John Kenneth Galbraith

## "Winning Strategy"

Our Personal Manifestation of the Universal Human Paradigm

- "A Winning Strategy is a lifelong, unconscious formula for achieving success.
- You did not design this Winning Strategy,
  - .... it designed you.
- It is the source of your success and ... the source of your limitations.
- It defines your reality, your way of being, and your way of thinking.
- This, in turn, focuses your attention and shapes your actions, thereby determining what's possible and not possible for you ..."

Tracy Goss, *The Last Word on Power*, 1996, p. 35

## Examples of Winning Strategies

- Taking control
- Challenging and provoking others
- Relating and communicating well
- Solving or preventing problems
- Using humor to get attention, smooth things over
- Facilitating and empowering
- Being convincing and motivating
- Providing security
- Problem: "As soon as you must take on the impossible, the Winning Strategy will not only cease to be useful, it will impede you from succeeding."

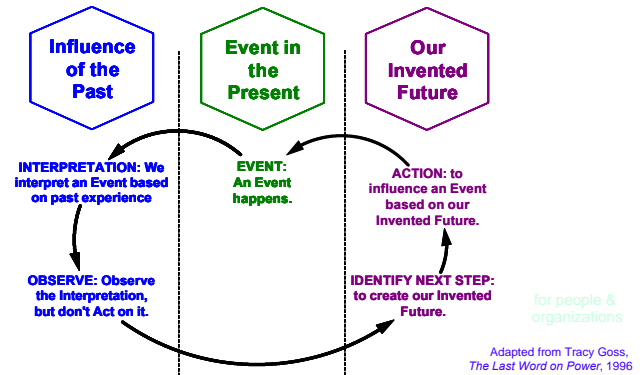
every reinforcing loop will eventually trigger a balancing loop

Tracy Goss, *The Last Word on Power*, 1996, p. 38

## How Winning Strategies are Created



## How Focus on Values & Purpose Create the Future

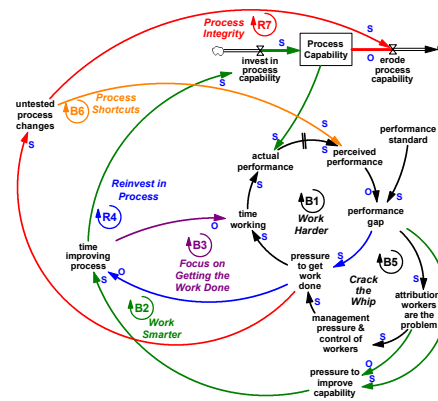


## How Does this Play Out in Organizations?

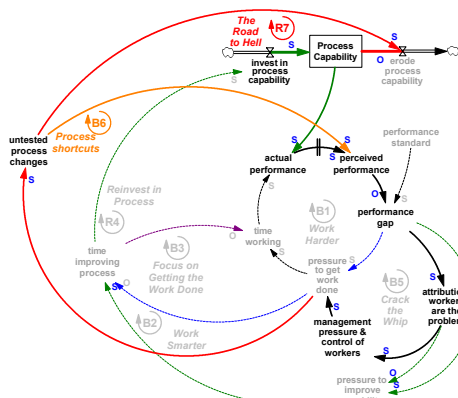
- We'd love to re-create our goals and reshape our industry.
- **But not yet!**
- Because everyone's Winning Strategy is different,
- ... everyone believes differently ...
- ... and often work at cross-purposes.
- While brilliant results are everywhere ... no one
- ... pays attention to the future of the company as a whole.
- ... The major players are enmeshed in their own survival agendas according to their Winning Strategy.
- **Decision-making is hindered until everyone hears what they "listen for" according to their own Winning Strategy**

Tracy Goss, *The Last Word on Power*, 1996, p. 83-93

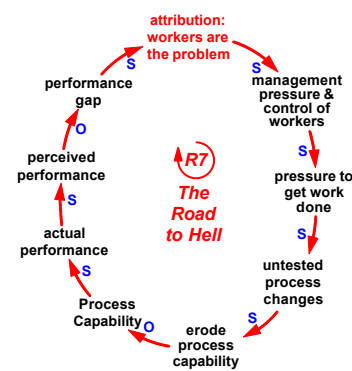
## Process Improvement Dynamics



## The Road to Hell



## The "Road to Hell"



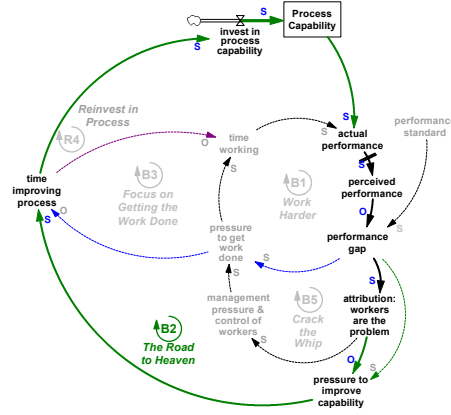
John D. Sterman, "Superstitious Learning: Breaking a Vicious Cycle in Organizational Life", 1997 Power of Systems Thinking™ Conference, 5/13/97, Pegasus Communications, Inc.

## The Self-Fulfilling Language of Economics - Examples

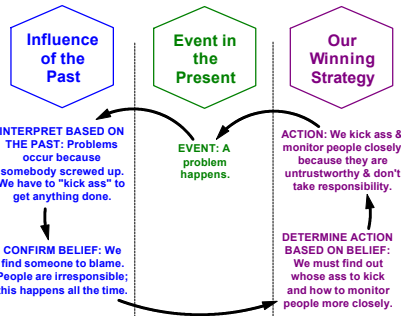
- **Term: shirking**
- **"If we believe people will work hard only if specifically rewarded for doing so, we will provide contingent rewards and thereby condition people to work only when rewarded."**
- **Term: free riding**
- **"If we expect people to be untrustworthy, we will closely monitor and control them and by doing so will signal that they can't be trusted -- an expectation that they will most likely confirm for us."**

Jeffrey Pfeffer, "Six dangerous myths about pay," *Harvard Business Review*, May-June 1998, p. 109

## The "Road to Heaven"



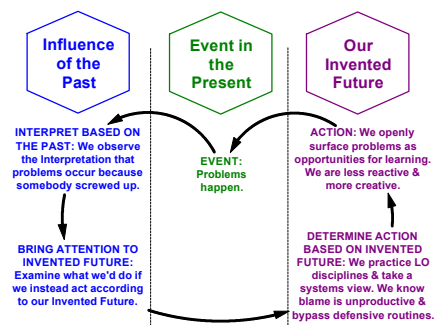
## Winning Strategy Concept: We are a "Kick Ass" Organization



**BELIEF:**  
We know people are lazy, irresponsible, and must be watched closely. We know "they're to blame" for our problems.

**JUSTIFICATION:**  
It seems heartless at times, but company survival depends on our being tougher than our competitors.

## Invented Future Concept: We are a Learning Organization (LO)



**BELIEF:**  
As a "learning organization" we know there is no "blame." The great majority of our problems are a result of system structure. We know we must not blame if we're to continuously learn and improve.

**JUSTIFICATION:**  
It's tempting to blame, but company survival depends on our ability to learn faster than our competitors.

## Creating Reality

- **Systems thinking is "reality change therapy."**

## Mental Models

## Intellectual Integrity

- "... the ability to see the world as it is,
- not as you want it to be."

Peter Drucker, *Forbes*, "Seeing things as they really are," March 10, 1997, p. 122

## The World We See

- "We do not describe the world we see,
- ... we see the world we can describe."

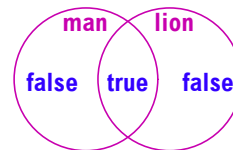
René Descartes

## What We Will Not Believe

- "Men will not believe what does not fit in with their plans or suit their prearrangements."

Historian Barbara Tuchman, *Practicing History*, 1981

## Metaphors for Organizations



A man is a lion.

The power in a metaphor is finding a good fit!

Our Perspective Matters

The Pig:  
 ★ veterinarian  
 ★ artist  
 ★ wolf  
 ★ farmer  
 ★ philosopher

### The Organization

★ bureaucracy      ★ team  
 ★ machine            ★ instrument of domination  
 ★ brain  
 ★ culture              ★ organism  
 ★ political            ★ etc.

## Our Changing Mental Models

### Old

- American Auto Industry view that styling is most important factor in sales
- Companies/corporations employing everyone they need all the time.
- Manage inventories and production

### New

- Quality and style are important
- Half of the workforce contributing temporary and part-time to more than one company
- Manage delivery service

## Mental Models

### ■ When to examine them:

- Not understanding
- Significant emotion
- Frustration
- Conflict
- Quick Judgment
  - Disagreement (... "that's stupid!" ...)
  - Agreement (... "absolutely!" ...)

### ■ Ways to examine them:

- Reflection / Inquiry (... as in Dialogue ...)
- Ladder of Inference
- The Left-Hand Column
- Balancing Inquiry and Advocacy
- Scenarios / Strategies (uncertainties / options)

## Plans and Actions are Based on Beliefs

- "... Mintzberg points out that to understand strategy we must recognize that strategy is a process of crafting, based on attitudes and perceptions.
- Beliefs are not readily observed and not easily monitored.
- Their very existence remains submerged in the specification of the search process unless special efforts are undertaken to reveal them (Stermann, 1989)."

horse

"Strategy and the Search for Rents," J. R. Williams in *Fundamental Issues in Strategy - A Research Agenda*, Rumelt, Schendel, & Teece, Harvard Business School Press (1994)

## Using the Left-Hand Column to Expose Mental Models

### What We Think:

- What we think, and do not say out of defensiveness and out of our fear of being hurt or of hurting someone else.

### What We Say:

- What we actually say out loud.

## Using the Left-Hand Column to Expose Mental Models

### The "Left Left Hand" Column

#### The "Truth":

What we would say if we were centered in our personal power and grounded in our knowledge of the Spirit within us.

### The "Left Hand" Column

#### What We Think:

What we think, and do not say out of defensiveness ... out of our fear of being hurt or of hurting someone else.

### The "Right Hand" Column

#### What We Say:

What we actually say out loud.