



Developing Critical Thinking Skills

**MAXIMIZING OUTCOMES
THROUGH EFFECTIVE
DECISION MAKING**



Critical Thinking

To every complex question there is a simple answer and it is wrong.

H. L. Mencken

The background of the slide features a photograph of a large, classical building with a prominent dark dome, likely a state capitol. The building is partially obscured by trees with vibrant autumn foliage in shades of red, orange, and yellow. A blue flag is visible on a pole to the right of the building.

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Agenda

- Introduction and Overview
- Barriers to Critical Thinking
- Tools to Develop Critical Thinking Skills
- Implementing Critical Thinking
- Analyzing and Assessing Success
- Critical Thinking At Work

Why Are We Here?

- Need a Better Way to
 - Problem solve
 - Make Decisions
 - Use Available Time
 - Use Existing Resources
- Shared Examples/Scenarios

What is Critical Thinking to You?

- What do you see as the key elements of critical thinking?

Critical Thinking Defined

- The disciplined art of ensuring that you use the best thinking you are capable of in any set of circumstances; or
- The art of analyzing and evaluating thinking with a view to improving it; or
- The discipline of using information, experience, observation and reasoning to guide your decision, actions and beliefs.

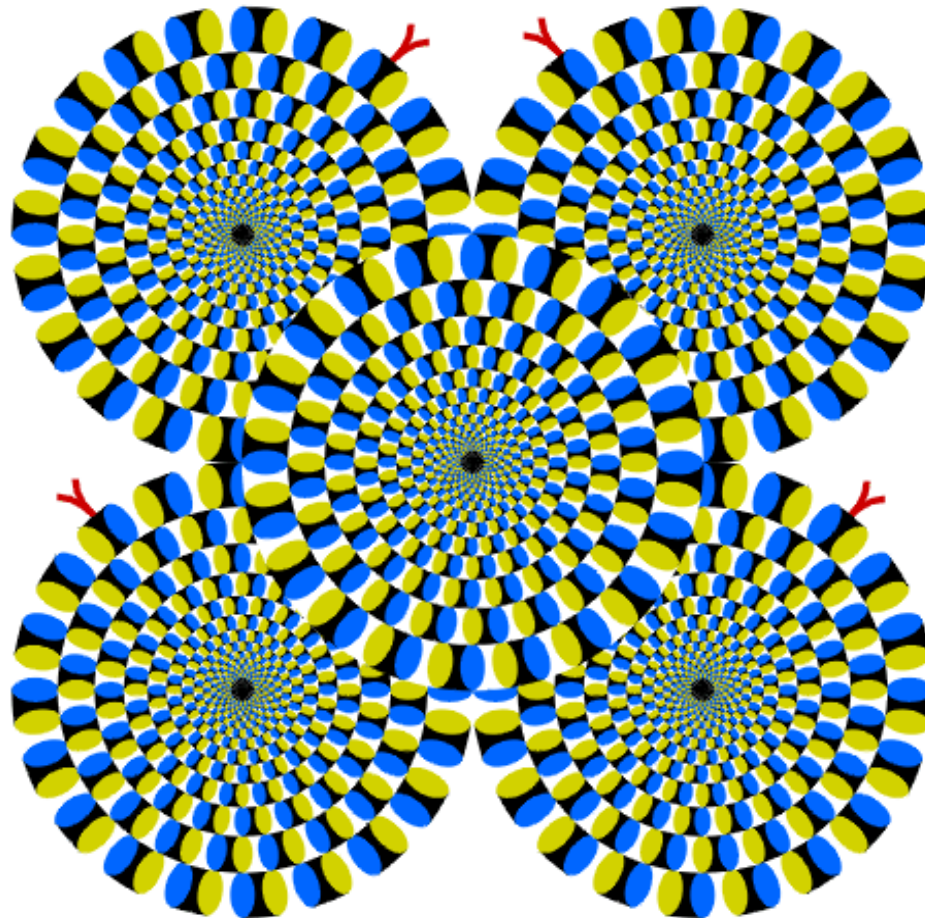
Filters and Barriers to Critical Thinking



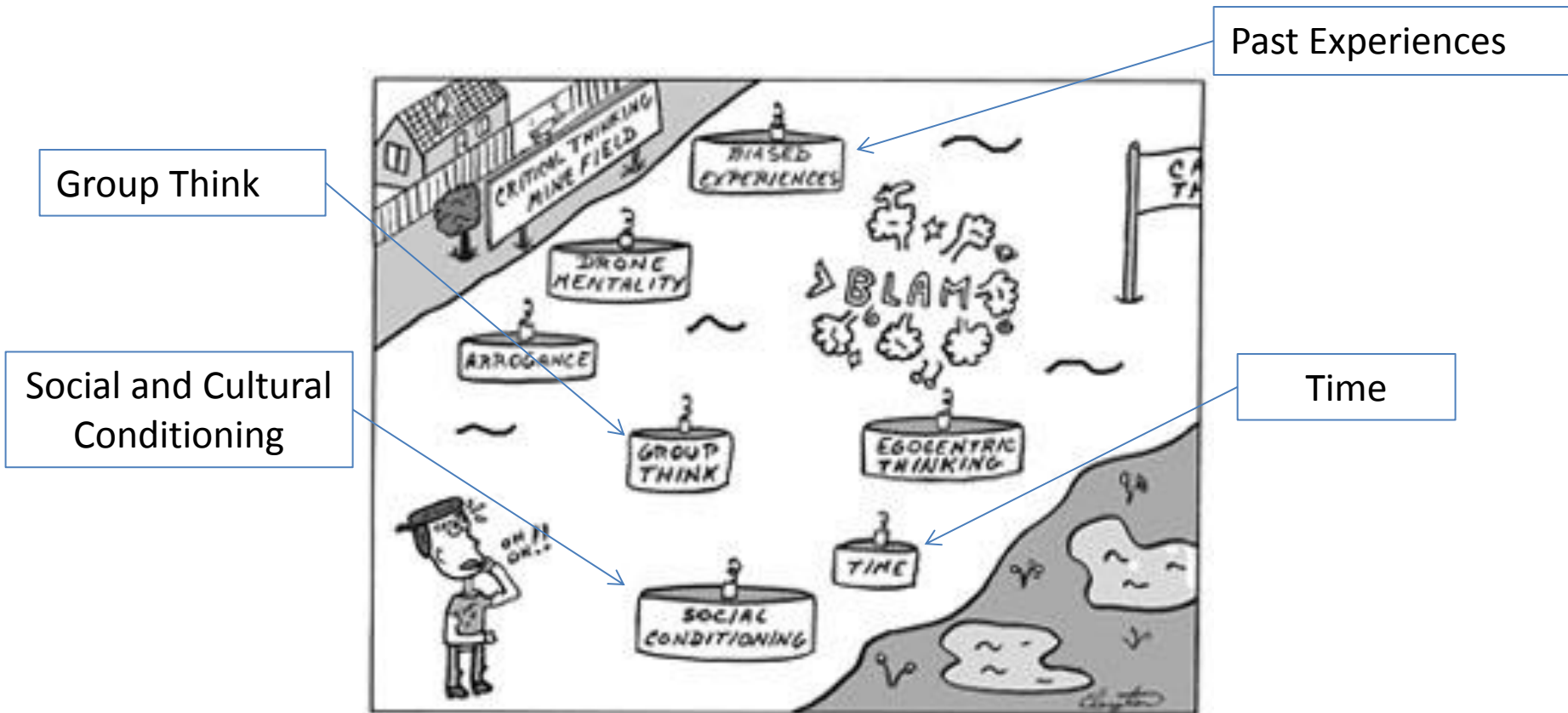
Perception

- Millions of bits of information every minute; we can perceive only a tiny number.
- We focus only on what is **relevant**, what arouses us **emotionally** NOW.
- Present perception is shaped by the past; based on **what we believe is so**, not on what actually is so.
- This is why two witnesses never recount the exact same thing

“The eye sees only what the mind is prepared to comprehend.”
Henri Bergson

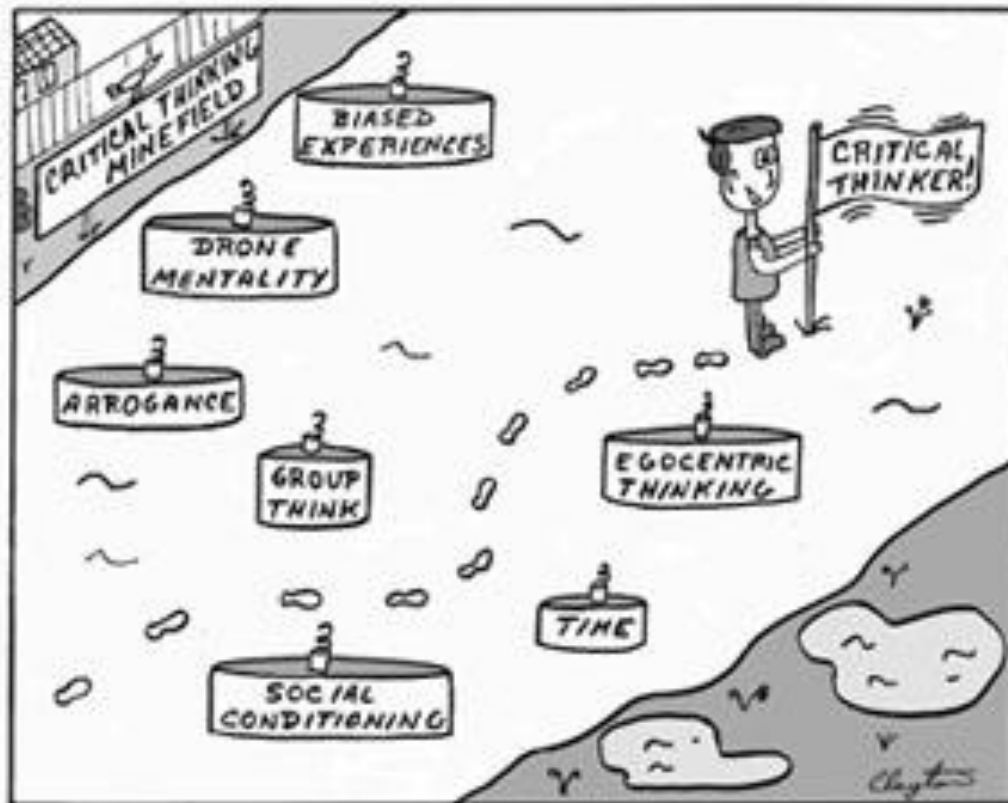


The Critical Thinking Minefield



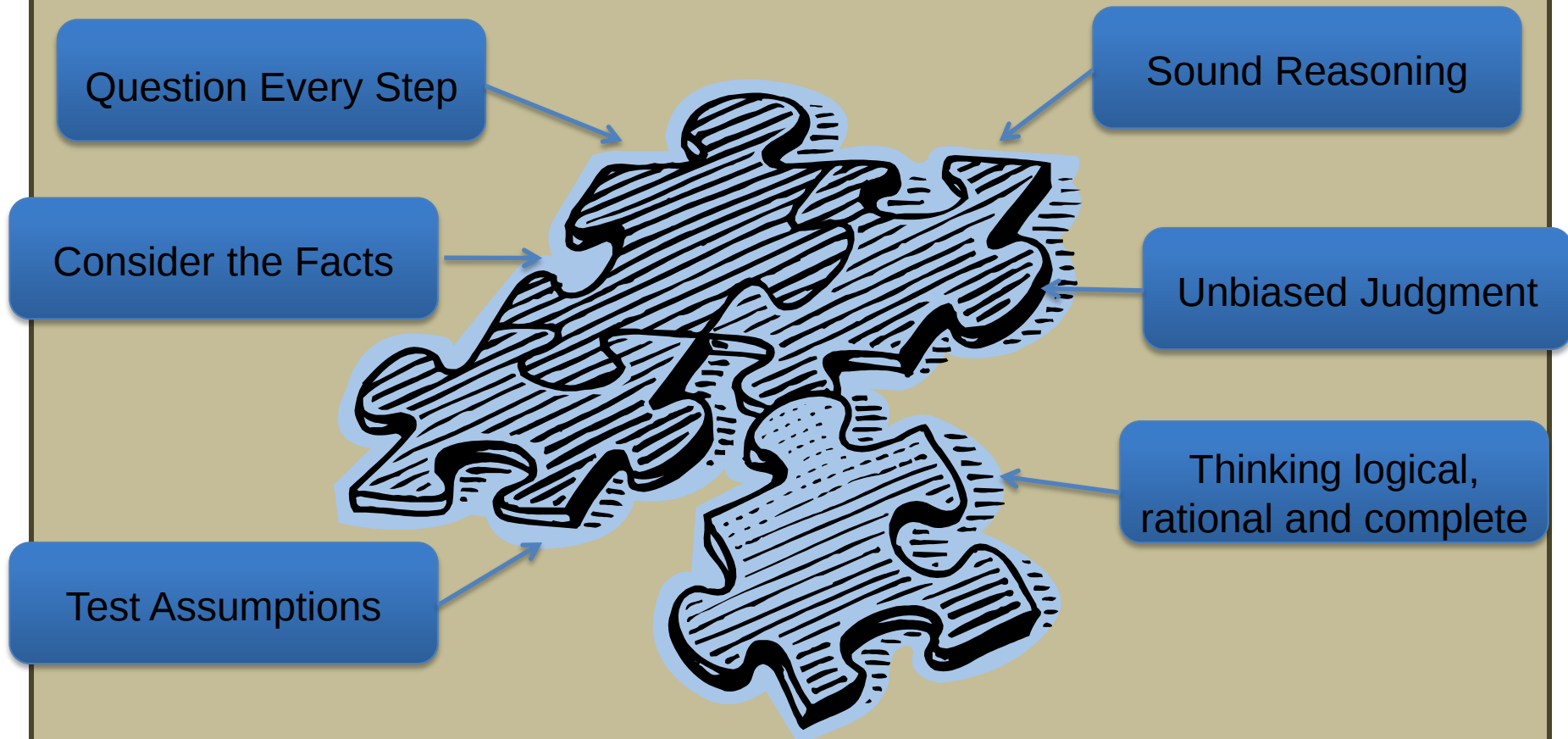
Source: <http://www.problem-solving-techniques.com/Barriers-to-Critical-Thinking.html>

Navigating the Minefield



Source: <http://www.problem-solving-techniques.com/Barriers-to-Critical-Thinking.html>

Critical Thinking Puzzle



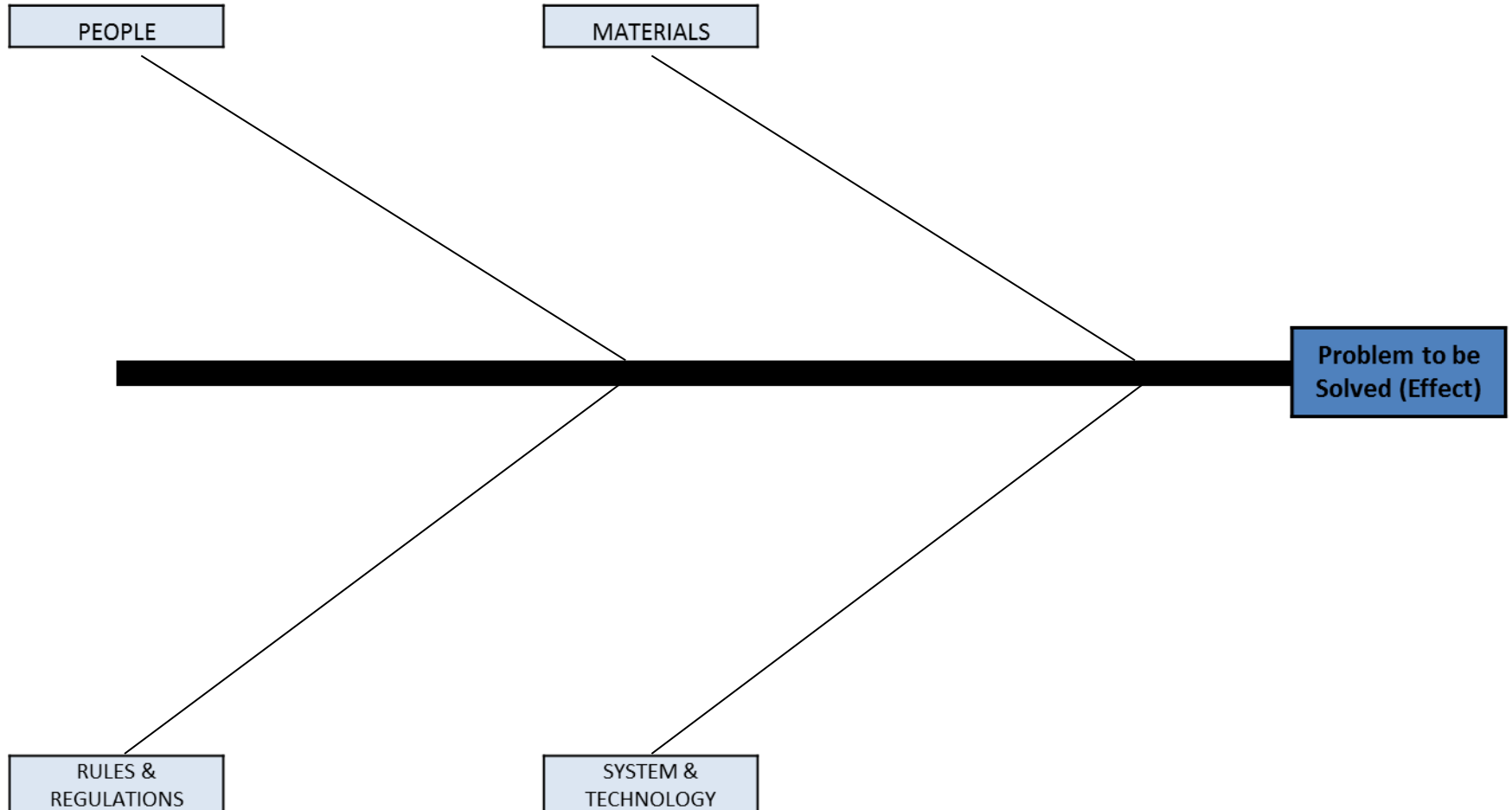
Developing Critical Thinking

- Two Methods
 - **Sharpen Analytical Thinking**
 - Analyze Cause and Effect
 - Develop Evaluation Skills
 - Analyze trends to make projections about the future
 - **Enable a Critical Thinking Mindset**
 - Open-minded
 - Well informed
 - Logical
 - Ask questions to seek clarification

Tools to Develop Critical Thinking

- Cause & Effect Diagram (Fishbone Diagram)
- Ladder of Inference
- Impact Analysis
- SWOT/TOWS
- The Five Whys
- Drill-Down
- Workflow Analysis
- Six Thinking Hats

Cause and Effect Diagrams

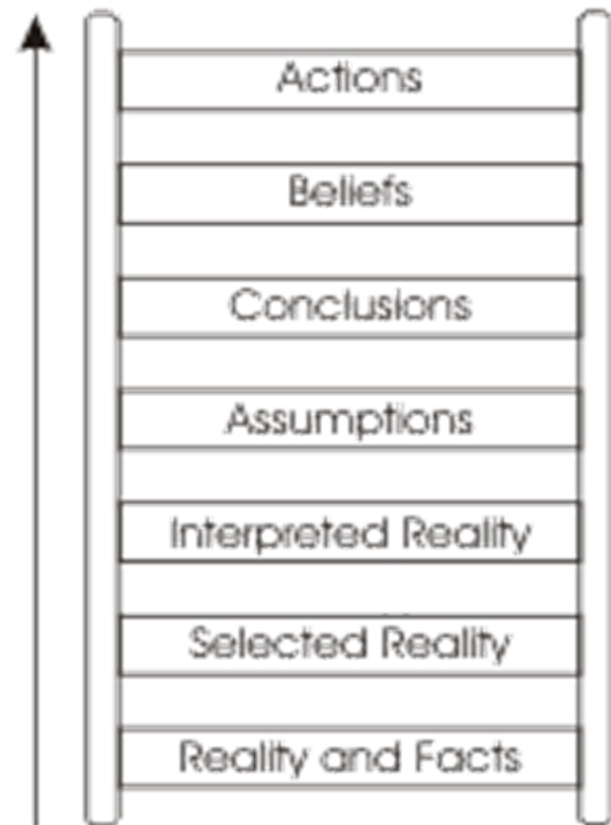


Ladder of Inference

(How to Avoid Jumping to Conclusions)

- At each stage ask yourself **WHAT** you are thinking and **WHY**
- Some questions can include:
 - Why this course of action?
 - What belief led to that action?
 - What am I assuming and are my assumptions valid?
 - What data have I chosen and why?
 - Have I considered all the right facts?

Figure 1: The Ladder of Inference



Source: Peter Senge, *The Fifth Discipline*

Impact Analysis

- Designed to unearth the “unexpected” negative effects of change.
- Used before you start a project or if the decision has been made. It helps prepare for and manage any serious issues.
- Brainstorm major areas affected
 - Team-based approach most effective – varied perspectives
- List potential impacts, evaluate severity and manage the consequences.

SWOT Analysis – Analyzing and Prioritizing Business Needs



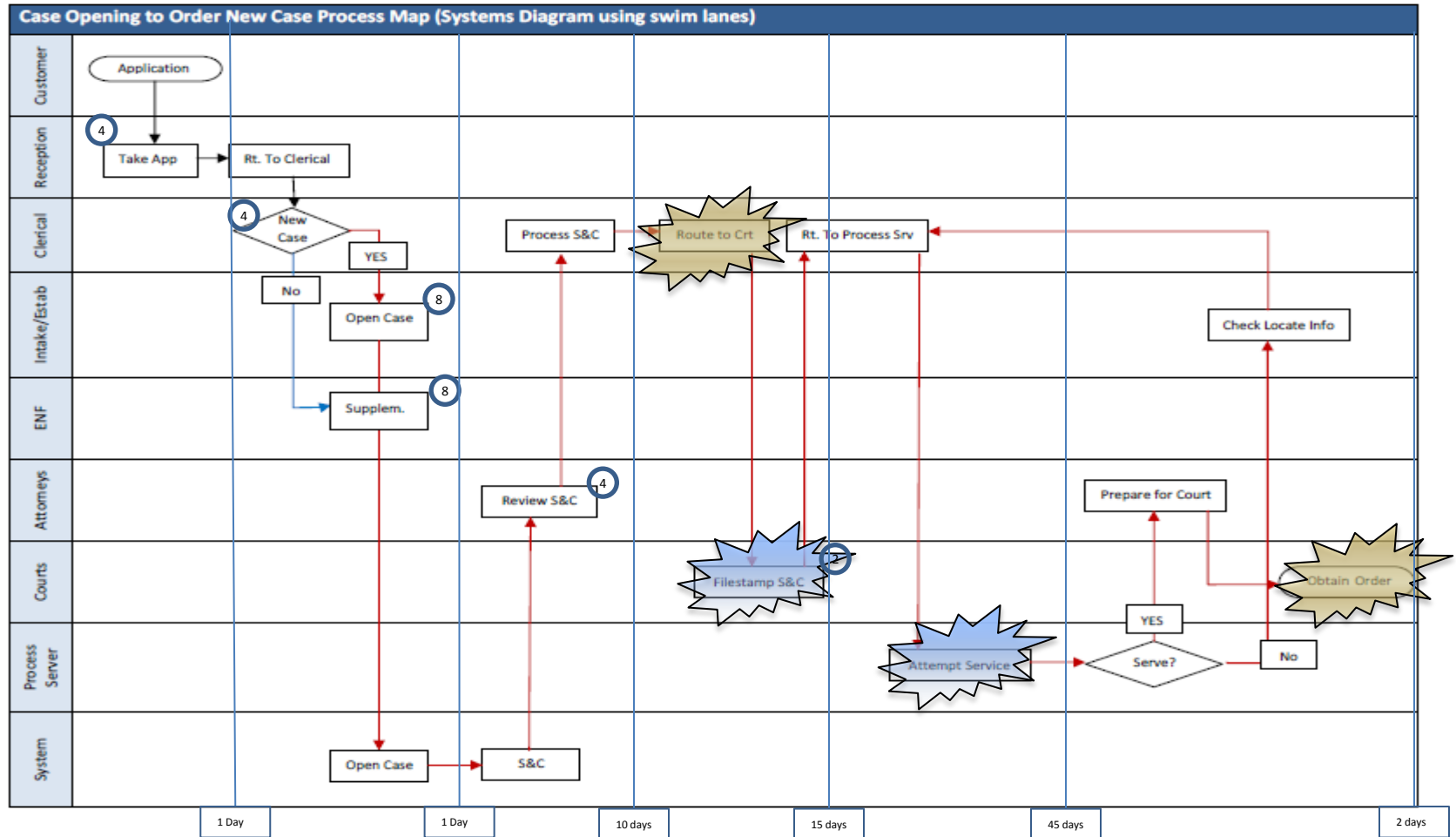
TOWS – Using the Tools That You Have

	External Opportunities (O)	External Threats (T)
Internal Strengths (S)	SO “Maxi-Maxi” Strategy Strategies that use strengths to maximize opportunities.	ST “Maxi-Mini” Strategy Strategies that use strengths to minimize threats.
Internal Weakness (W)	WO “Mini-Maxi” Strategy Strategies that minimize weaknesses by taking advantage of opportunities.	WT “Mini-Mini” Strategy Strategies that minimize weaknesses and avoid threats.

The Five Whys

- Simple but powerful tool to get to the root of a problem
- Start with a simple fact, ask the question “Why?” or what are the implications of that fact?
- Keep asking that question until you’ve drawn all possible inferences or gotten to the root.
- Very fast and easy to do!

Workflow Diagrams/Process Mapping



How to Apply the Tools at Work

- Changing organizational structure from functional team to PRE/POST order teams
 - **Impact Analysis or Workflow Diagrams**
- Areas to focus on for next performance plan or strategic plan
 - **Cause and Effect Diagram or SWOT/TOWS**
- Checking to see if your decision is sound
 - **Ladder of Inference**
- Developing Critical Thinking in others
 - **The Five Whys**



EXERCISES!

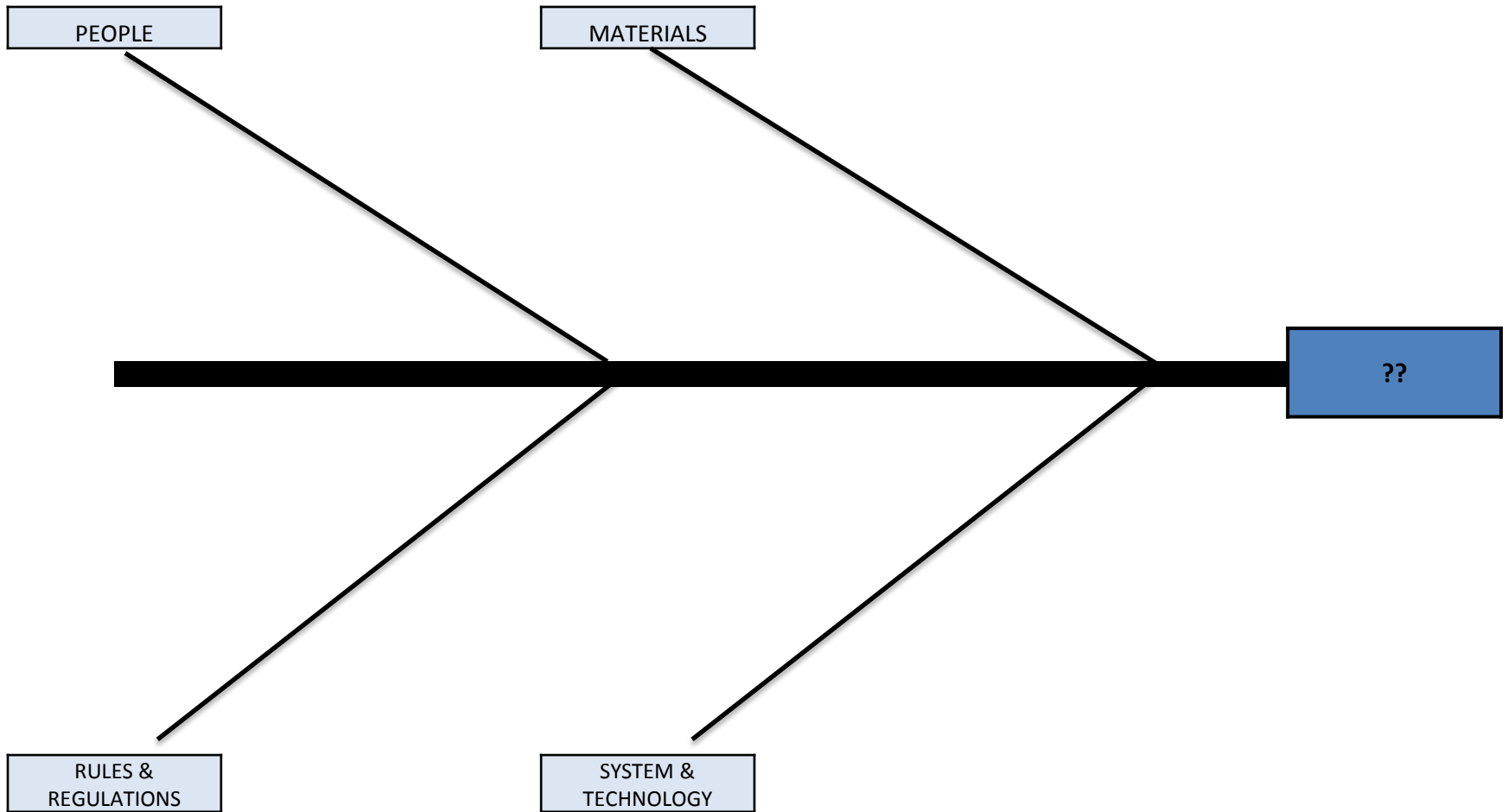


Critical thinking is thinking
about your thinking, while
you're thinking in order
to make your thinking better.

— Richard Paul

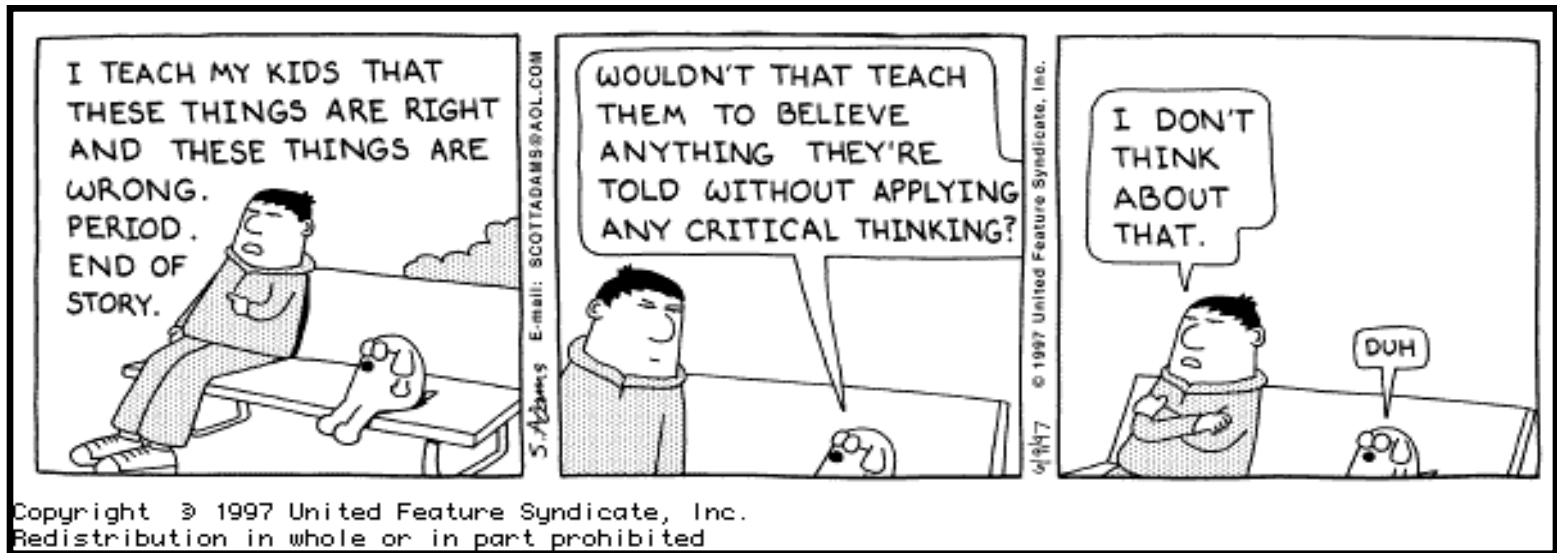
Source: http://www.bloggyland.com/wp-content/uploads/2013/10/critical_thinking_excercises.jpg

Cause & Effect Diagram: Why are Caseloads Decreasing?



Self Assessments

- How well do you currently use critical thinking?
- Are you aware of any assumptions or biases?
- What's your action plan to move forward?



Source: *Non Sequitur*, Property of United Feature Syndicate, Inc.

Benefiting from Critical Thinking

- What if we did this well – how would it benefit the organization?
 - What would be different?
 - What would be working better?
 - How would processes be improved?
 - What efficiencies would be gained?
- How will you foster this in your organization?
 - Model good critical thinking
 - Use the tools

Conclusion

- Critical thinking means choosing the right thinking process and using it rigorously and completely.
- THINK before you think, and choose the best tools and techniques for each situation.



Questions?

THANK YOU!

