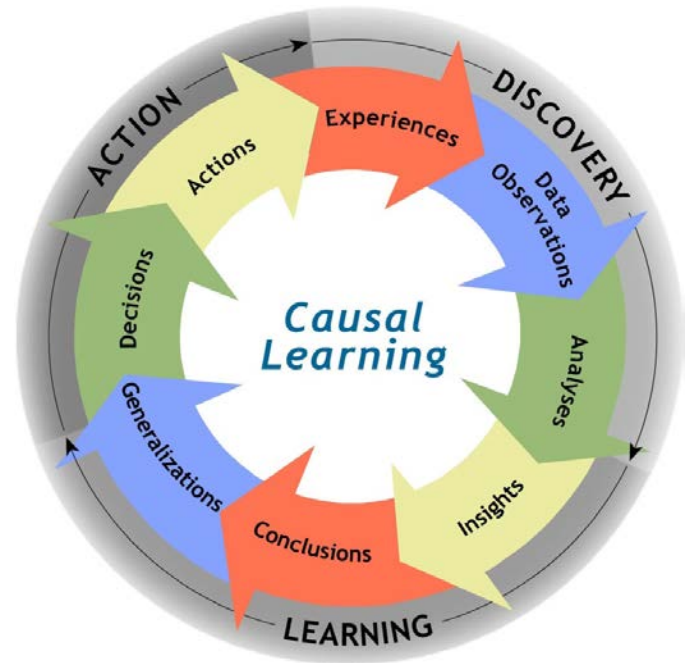


# TOP / CAUSAL LEARNING



# **TOP & Causal Learning**

## **Fundamental Elements**

- **Joint program between Labor and Management**
- **Conduct investigations jointly (Hourly & Staff)**
- **Use Causal Reasoning to discover the causes of incidents**
- **Engage people in learning from the causes**
- **Take corrective action to eliminate the causes referencing TOP systems of safety**
- **Measure safety performance through TOP rate**

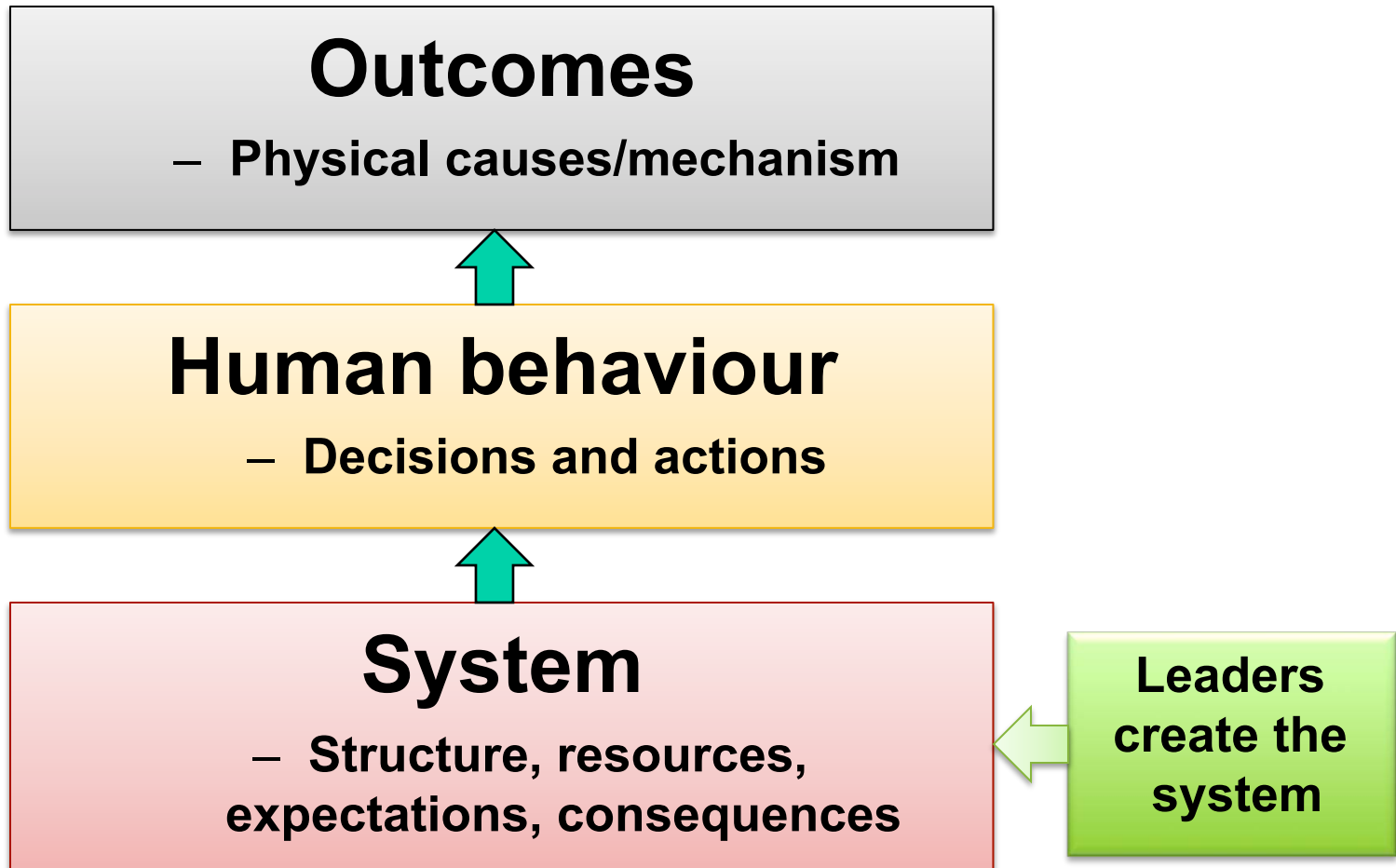


# Purpose of TOP/Causal Learning

- **TOP/Causal Learning helps us improve performance by:**
  - **Discovering the causes of performance problems**
  - **Learning from the discovered causes**
  - **Implementing solutions that address causes and create the desired performance instead**
- **TOP/Causal Learning is used to solve problems and to investigate incidents in all areas of performance**
  - **HSE, Production, Quality, Projects, Financial, etc.**



# How performance is caused



# Obstacles to Performance Improvement

- **Action Priority** – Seek to fix a problem before understanding what caused it
- **Generalization** – Try to address problems in general terms without looking at the specific causes
- **Defensive Reasoning** – See a problem through what was not done rather than what actually happened
- **Hindsight Bias** – See the problem through knowledge of the outcome



# Hindsight Bias



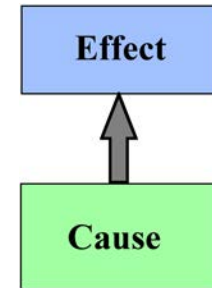
- People make choices to achieve a desired outcome based on the situation they are in and their beliefs at that time
- After an unwanted outcome occurs instead, we can look back at the outcome and see what they should have done differently
- We can then judge the people involved for making choices that we believe (now) they should not have made (then)



# Reasoning Orientations

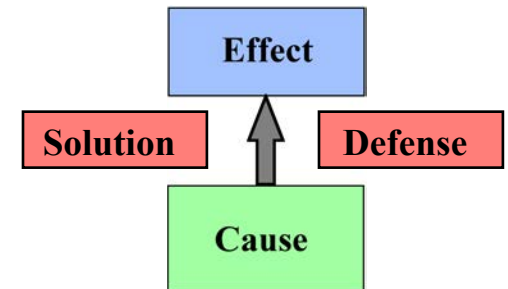
## *Causal reasoning:*

Determining what actually happened that created the problem



## *Defensive reasoning:*

Determining what failed, was missed or was wrong

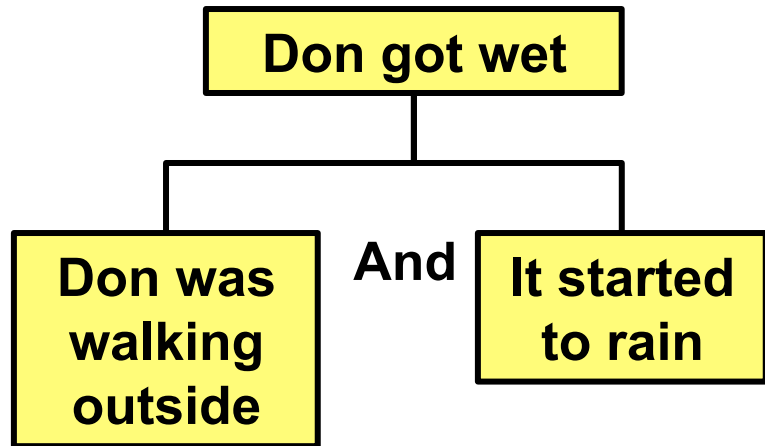


## *Solution reasoning:*

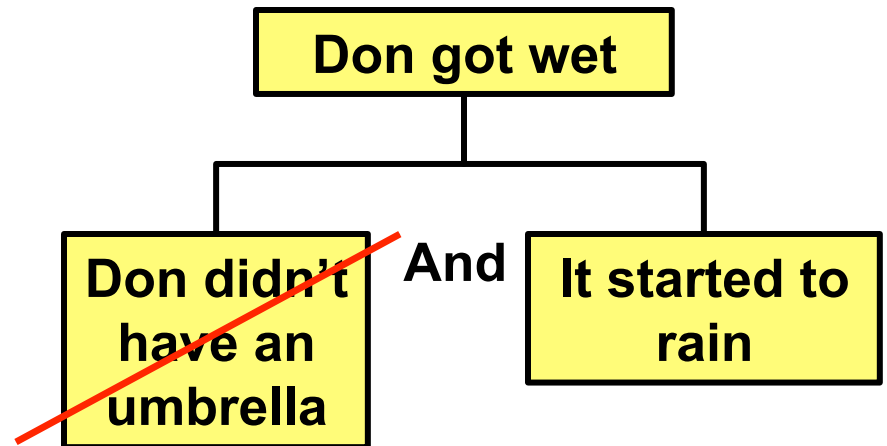
Determining what action to take to fix or prevent the problem



# Causal reasoning vs defensive reasoning



**Causal reasoning**



**Defensive reasoning**



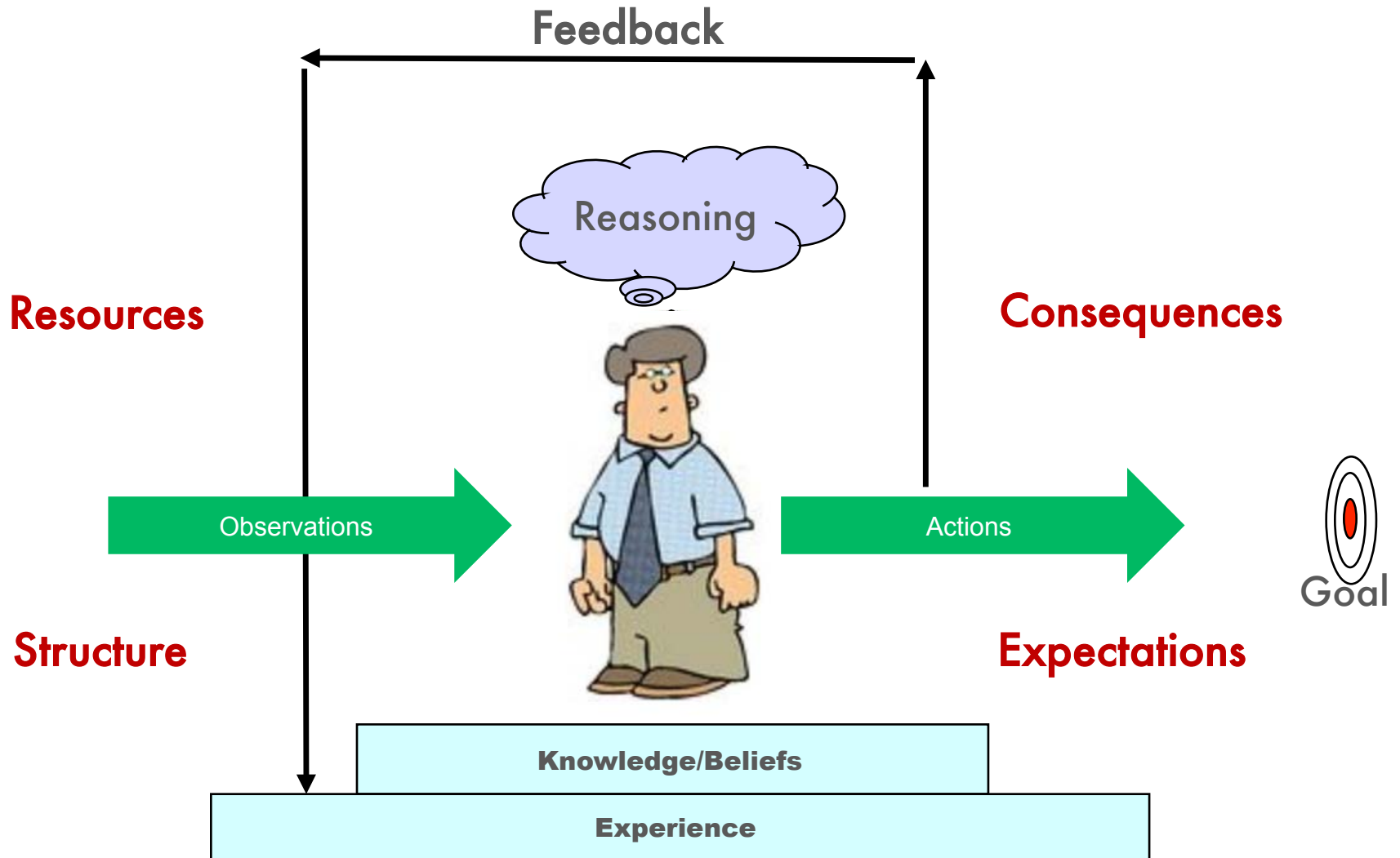


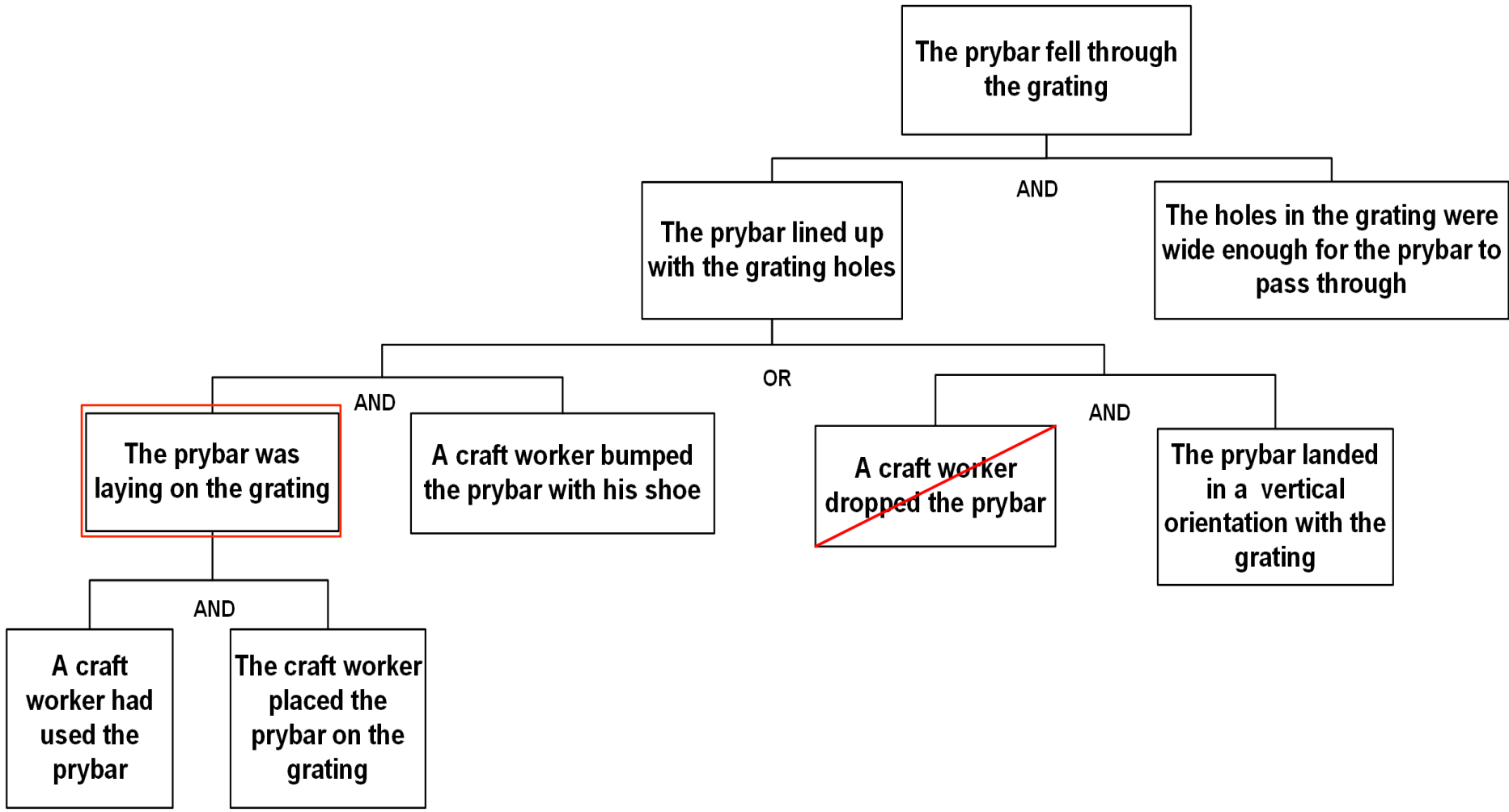
# Reasoning – Key Points

- **Defensive Reasoning**
  - Triggered by hindsight bias (what it looks like after we know the outcome)
  - Focused on “what they should have done differently” and “what failed or did not happen”
  - Reinforces existing barriers and controls, based on what we already know or believe.
- **Causal Reasoning**
  - Uses foresight perspective (what it looked like before the outcome)
  - Focused on why it actually happened
  - Stimulates learning and allows action to address causes
- **Solution Reasoning**
  - Focuses on action to “get out of the problem”
  - Actions are based on assumed causes.



# Human System Model





# Overview of TOP/CL Investigation Process

- 1. Conduct the investigation**
- 2. Learn from the investigation**
- 3. Develop solutions and link solutions to Systems of Safety**
- 4. Implement solutions**

