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# **Breaking Through Corporation Safety Performance - The Role of Risk Perception**

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# Objectives

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- **Business Impact**
- **Background**
- **Methodology**
- **Factors Influencing Risk Perception**
- **Next Step**

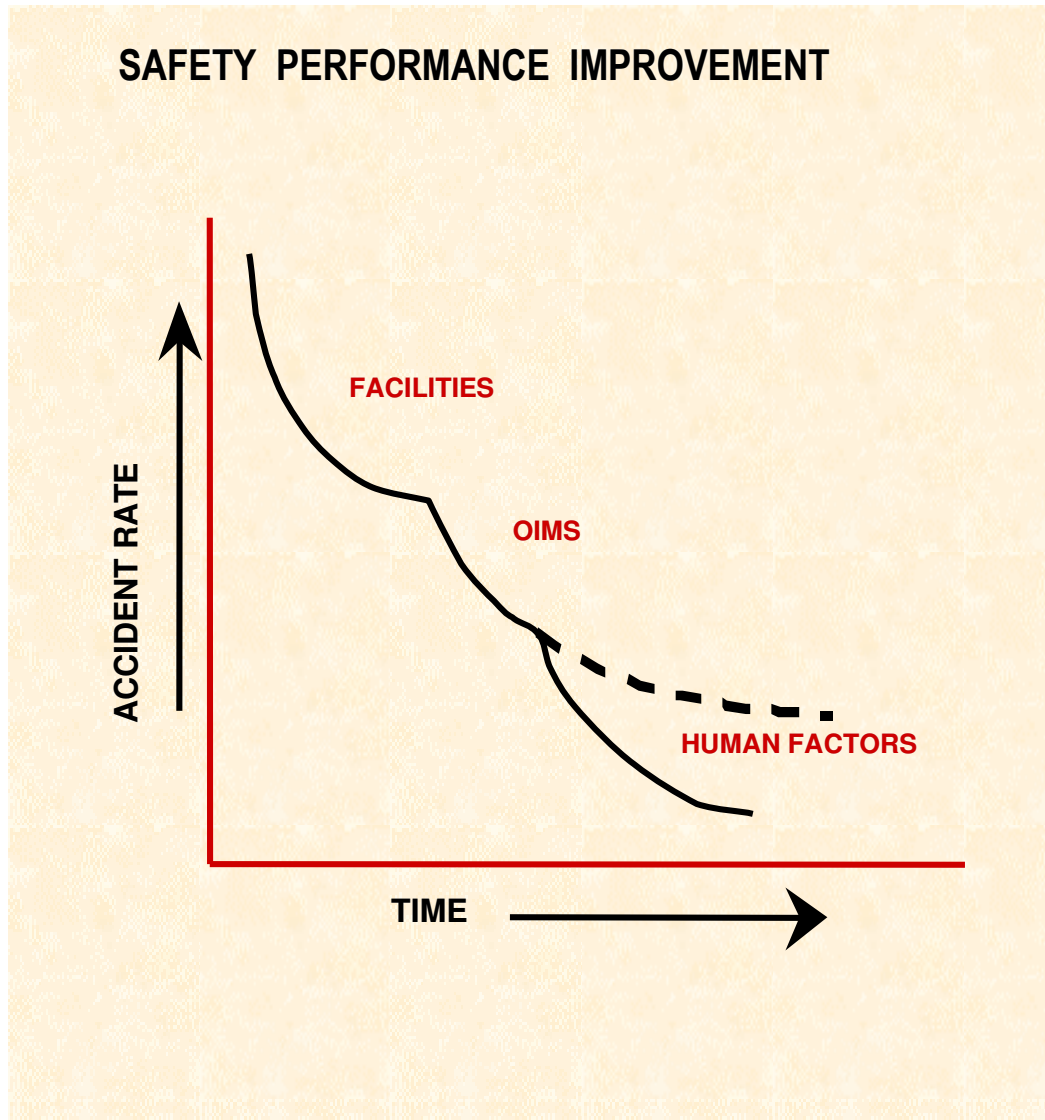
# Risk Perception

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## Business Impact

- Supports Corporation vision of “Nobody Gets Hurt”
- Break through safety performance plateau:
  - Augment safety programs with risk perception learnings
  - Provide tools to better perceive and avoid risk
  - Reduce/Eliminate incidents

# Background



**Human Factors is the focal point**

# Introduction

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- **What is Perception?**
  - **Process to add meaning to received information**
  - **Depends on knowledge and experience**
- **What is Risk Perception?**
  - **Process of determining likelihood and severity of injury**
  - **Determined by availability of risk in memory**
- **Behavior is determined by perceived rather than actual risk**

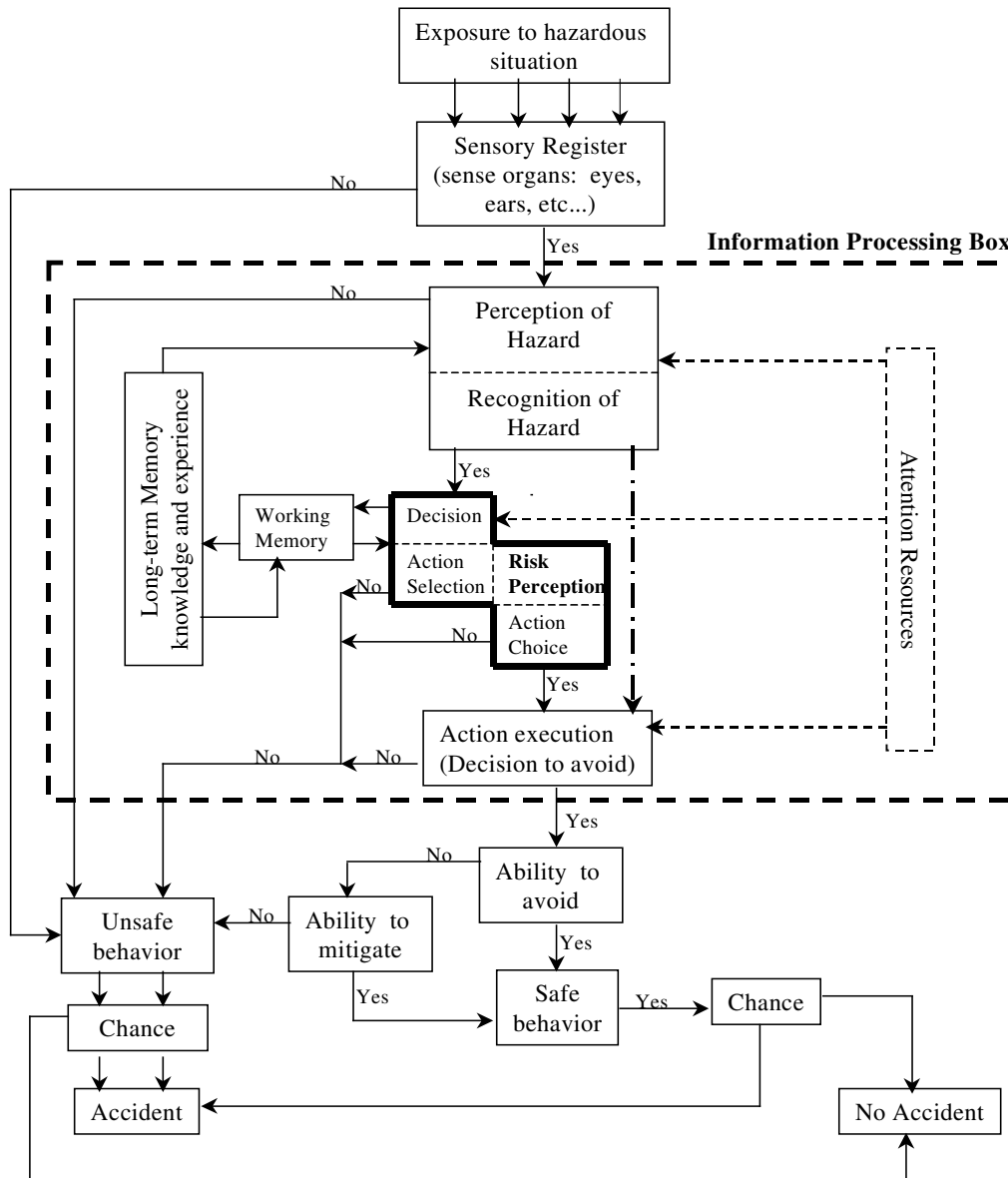


# Methodology

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- **Reviewed wide range of literature - 2002**
  - **Technological Threats, e.g. Nuclear power**
  - **Health Threats, e.g. AIDS**
  - **Lifestyle Risks, e.g. Smoking, alcohol consumption**
- **Proposed an Incident Sequence Model (ISM) - 2002**
- **Identified 8 main factors that can influence perception of risk - 2002**
- **Integrated factors into selected safety programs - 2002, 2003**
- **In the process of completing the report containing guidelines/tools to enable operations to:- 2003, 2004**
  - **Incorporate the findings into their own safety programs**
  - **Enhance employee perception of risk**
  - **Reduce/eliminate incidents**

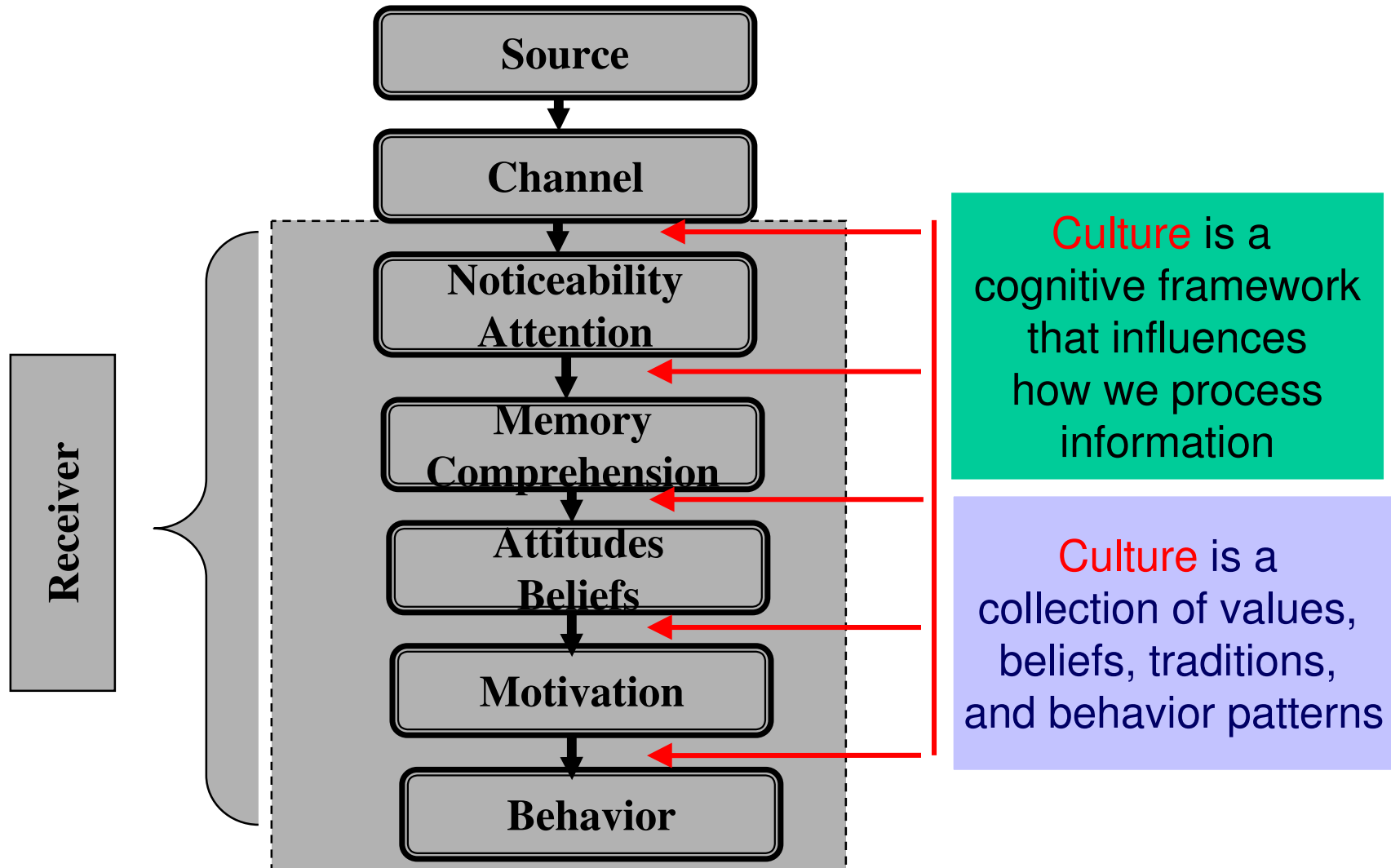
# Incident Sequence Model (ISM)



## Goals of Risk Perception Process


- Allow individuals to:
  - close the gap between actual and perceived risk
  - properly determine the likelihood and severity of injury to one's self and others (Consequence).
- Human information processing is critical to help and motivate employees to take actions and make interventions that will encourage safer behavior (Consequence becomes Antecedent).

# Incident Sequence Model (ISM) & Culture



# Factors Influencing Risk Perception

Risk Acceptance



*Influenced by:*

- Overestimate/Underestimate
- Familiarity
- Cost of Compliance
- Voluntary Exposure
- Social Influence

## Risk Perception Factors

1. Underestimating/Overestimating capabilities
2. Familiarity - Complacency
3. Severity of Consequences - Injury
4. Cost of Compliance - Time & Effort
5. Voluntary Exposure - Risk Taking
6. Controllable & Understood Hazards
7. Social Influence - Peer Pressure/Role Models
8. Personal Experiences

# Example of ABC Model

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## Antecedents

- Availability
- Peer pressure
- Rushing
- Training/Demos
- Mild consequence
- Policies/Procedures
- Supervisor feedback
- Always did it like this
- Incentive/Disincentive

## Behavior

Not wearing eye protection when required

## Consequences

- Injury
- Penalty
- Peer approval
- Comfort
- Convenience
- Save time
- Feedback

Cognitive Behavior  
Change

Reality Behavior  
Change

# Altering Risk Perception - Risk Guidelines Summary



## Underestimate/Overestimate

- Awareness to employees about underestimation and overestimation of situation and, how they lead to lower/higher risk perception.
- Training/communication/methodologies/tools about how best to avoid underestimation/overestimation of situation.

## Familiarity

- Strong warnings and emphasis on clear, explicit hazards. Train employees on how familiarity breeds lower risk perception.

## Severity of Consequences

- Provide and emphasize clear, explicit hazards and consequences information in both presentations and warning signs/situations.

## Cost of Compliance

- Minimize the cost of noncompliance by designing a safer system.
- Provide and emphasize clear, explicit hazards and consequences information in both presentations and warning signs/situations.

## Voluntary Exposure

- Training employees to understand and appreciate the difference between power of choice (lower risk perception) and no choice (higher risk perception). Lower risk perception can create an environment of unawareness of actual dangers and deficiencies.

## Controllable and Understood Hazards

- Part of the training programs, we need to discuss the complexity of people and their integral contribution to most workplace hazards and injuries. This will increase:
  - 1) the perceived value of ongoing safety interventions and,
  - 2) the beliefs that a safe place (on and off the job) requires total commitment and involvement of all employees.

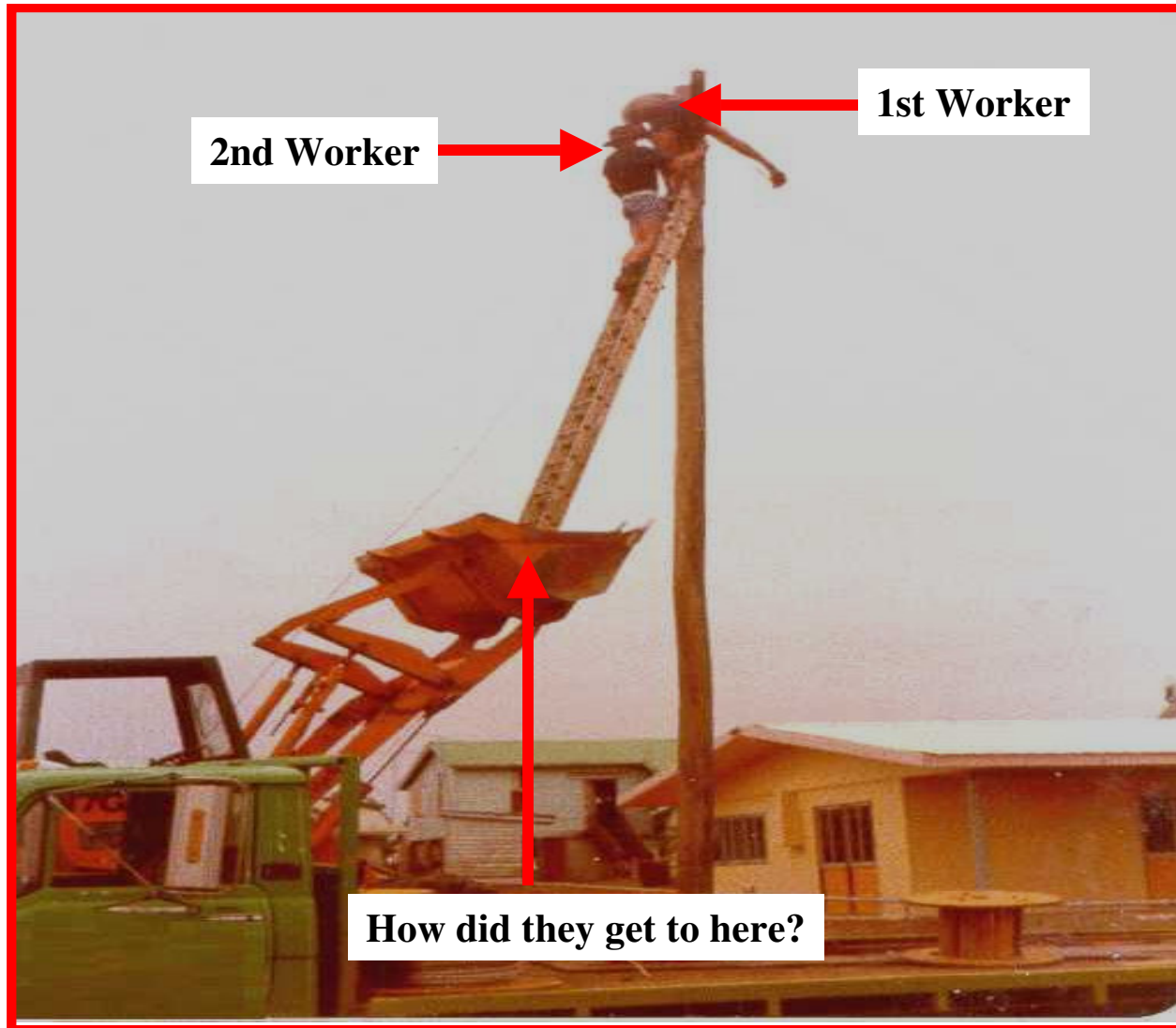
## Social Influence

- As part of the safety presentations and awareness training, employees need to understand what social influence and transition figure mean, how they work and, how they can be applied. The training should focus on the premise that: if employees see others complying with safety rules, they are more likely to comply themselves. Similarly, seeing others not complying lessens the likelihood of complying.

## Personal Experiences

- Train and encourage employees to use the power of personal stories and individual accounts in addition to convincing statistics. For example, focus of safety meetings/presentations should emphasize the human element of safety.

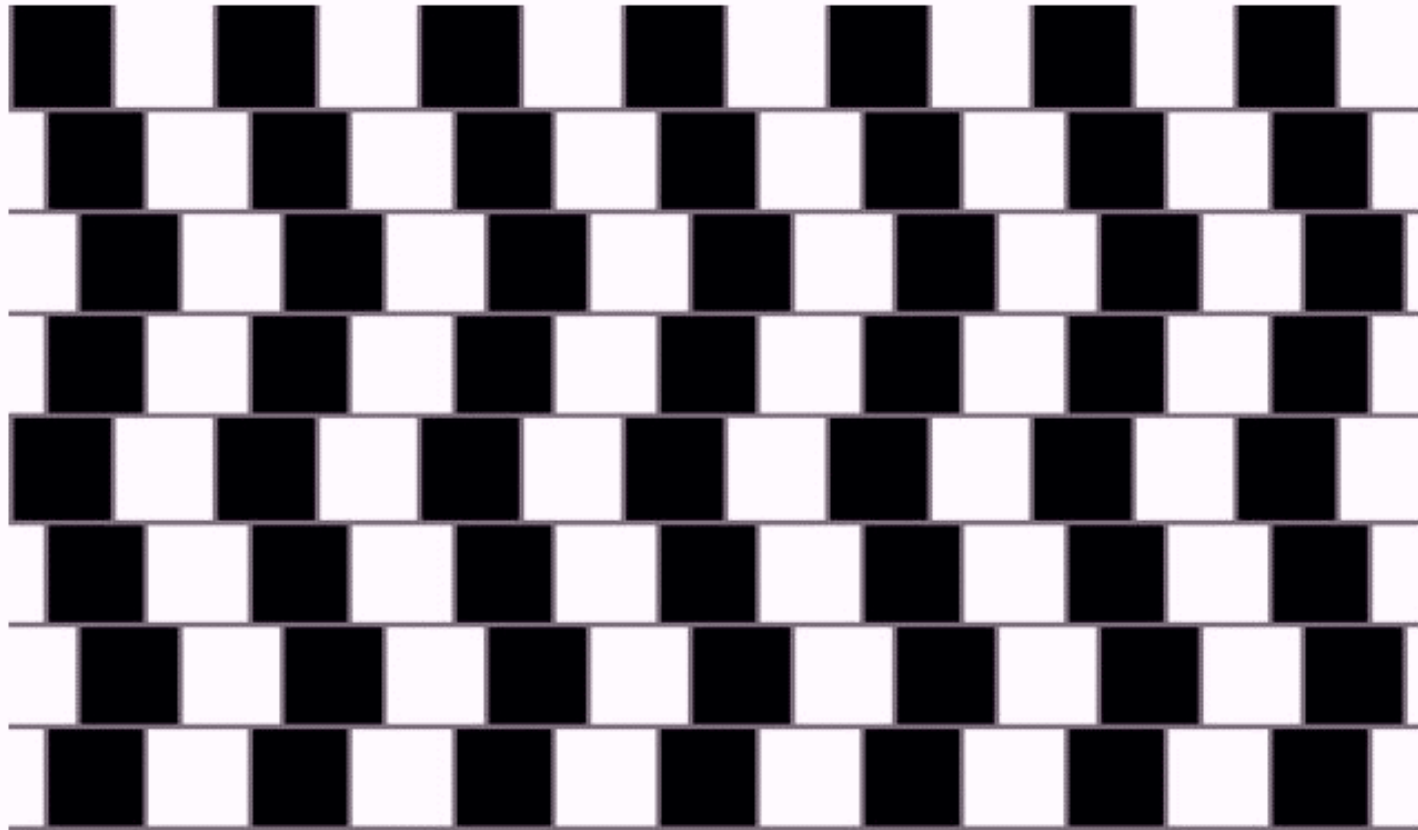
# Another Example



- Influenced by:*
- *Underestimate/  
Overestimate*
  - *Familiarity*
  - *Cost of  
Compliance*
  - *Voluntary  
Exposure*
  - *Controllable &  
Understood  
Hazards*

# Demonstration

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Are the horizontal lines parallel or do they slope?  
***Things are not always what they  
seem***