



*The Carnivale of Risk*

## Heinrich-Jones Accident Causation Theory

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**48<sup>TH</sup> CONFERENCE & EXPO**  
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## Why Heinrich-Jones?


Herbert Heinrich

- 1930s Superintendent of Engineering/Inspection Travelers Insurance
- Analyzed 75,000 accident reports
- Published *Industrial Accident Prevention: A Scientific Approach*
- 90 years later we are still talking about him!



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## What Were His Conclusions?



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Heinrich Pyramid  
Domino Theory  
4/1 ratio of direct/indirect costs

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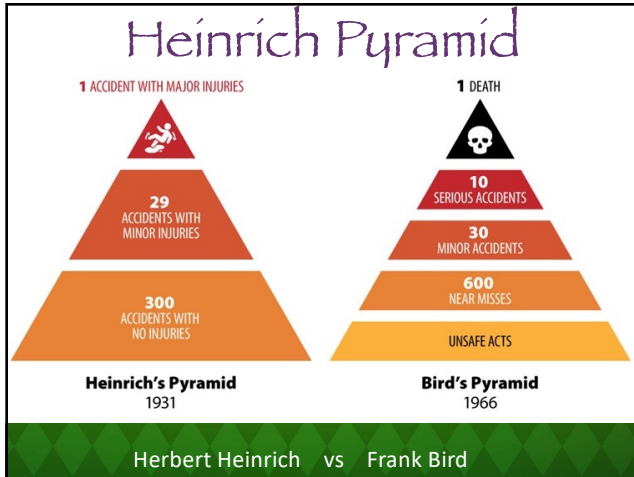
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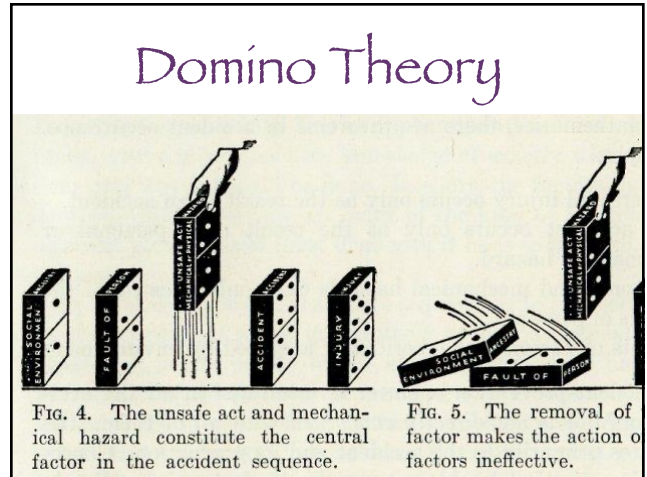
- 88% of incidents occur because of unsafe acts
- 10% of incidents occur because of unsafe condition (mechanical or physical)
- 2% of incidents are unpreventable

Criticized for not being scientifically supported, does not recognize management systems, too much focus on worker

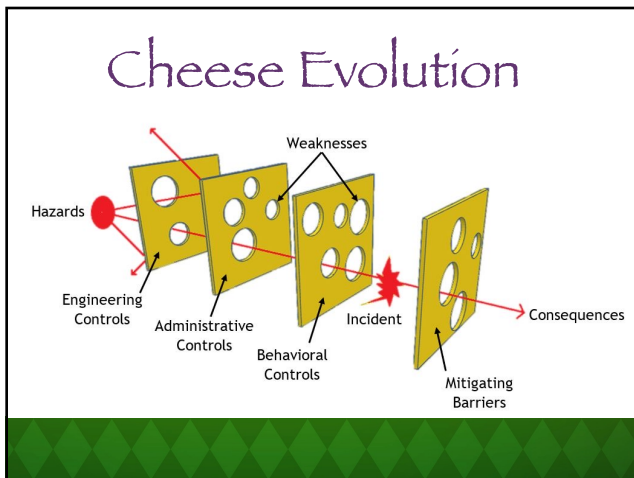
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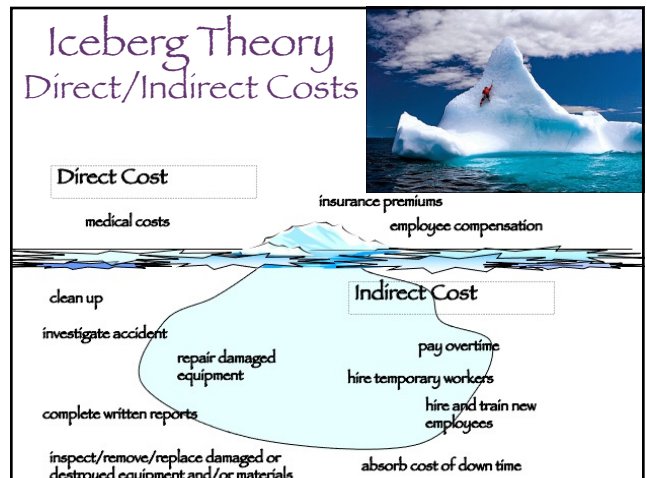
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## Criticisms

- Not scientifically supported
- Does not recognize management systems
- Too much focus on worker and not enough on systems
- Pyramid unsupported/misapplication

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## Accident Causation Theories

Human Factors Theory  
 Accident/Incident Theory  
 Epidemiological Theory  
 Systems Theory  
 Behavioral Theory (BBS)  
 Domino Theory

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## Why Bother?

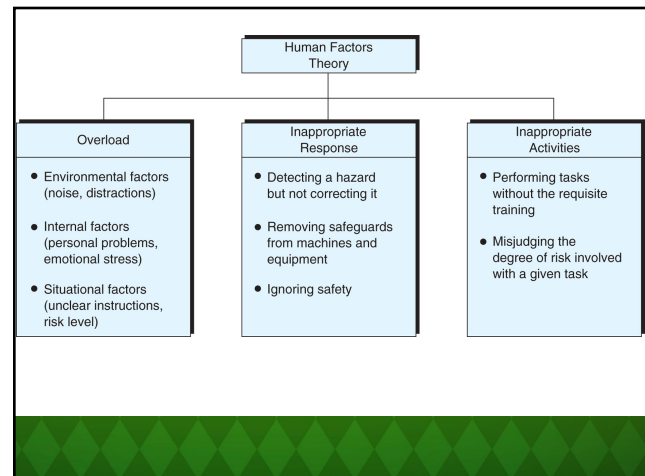
Before:

- Helps in job/process design
- Helps identify ways we are setting workers up for possible failure

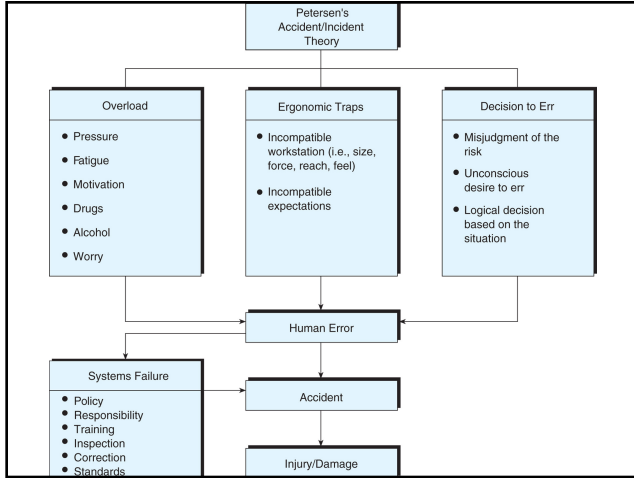
After:

- Helps identify appropriate corrective measures

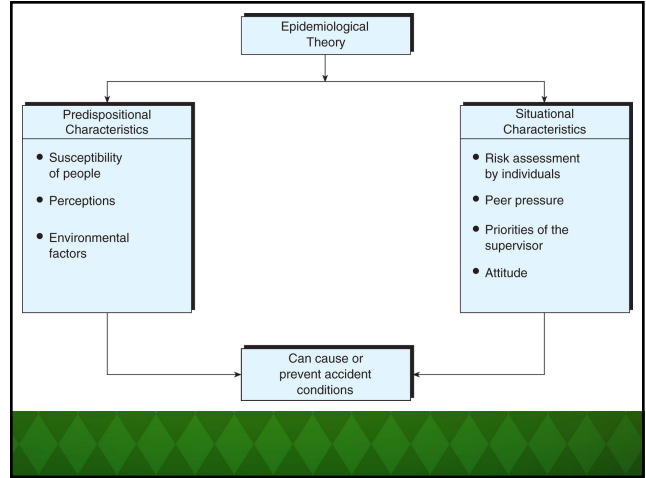
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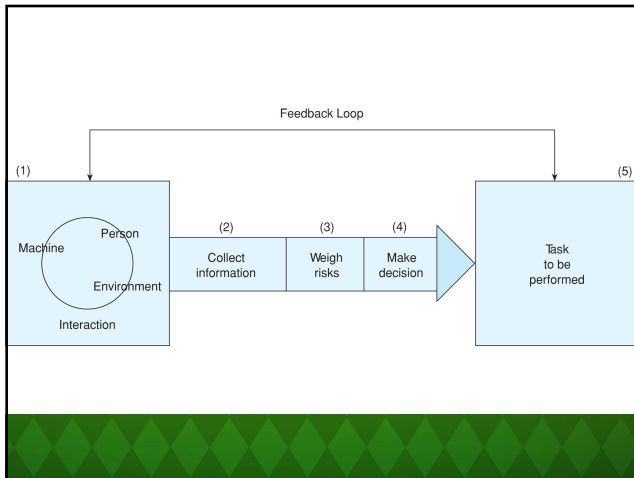
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## Behavioral Theory of Accident Causation

BBS is the application of behavioral theories rooted in psychology and has seven basic principles:

- Intervention that is focused on employee behavior
- Identification of external factors that will help understand and improve employee behavior
- Direct behavior with activators or events antecedent to the desired behavior, and motivation of the employee to behave as desired with incentive and rewards

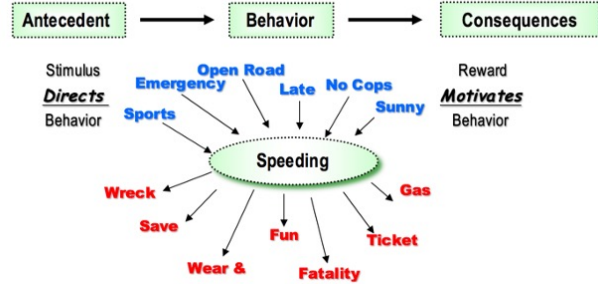
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# Behavioral Theory

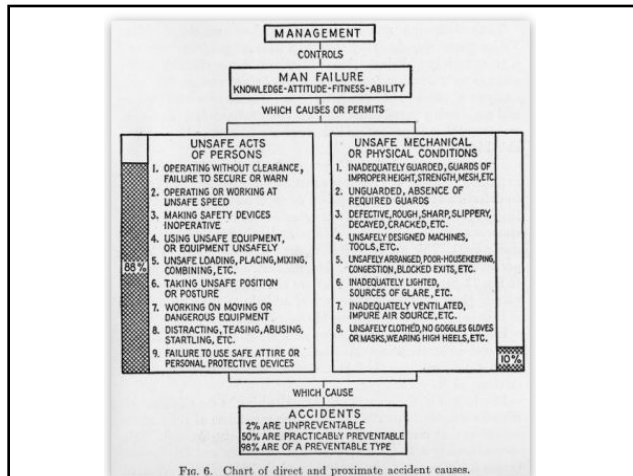
- Focus on the positive consequences that will result from the desired behavior to motivate employees
- Application of the scientific method to improve attempts at behavior interventions
- Use of theory to integrate information rather than to limit possibilities
- Planned interventions with **feelings** and **attitudes** in mind

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Despite the fact that we rely heavily on antecedents, it is consequences that have the greatest influence on behavior.



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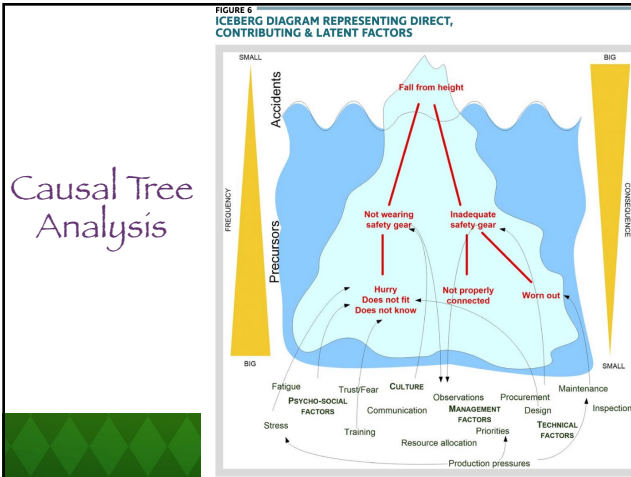
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“No matter how strongly the statistical records emphasize personal faults or how imperatively the need for education activity is shown, no safety procedure is complete or satisfactory that does not provide for the ... correction or elimination ... of physical hazards.”

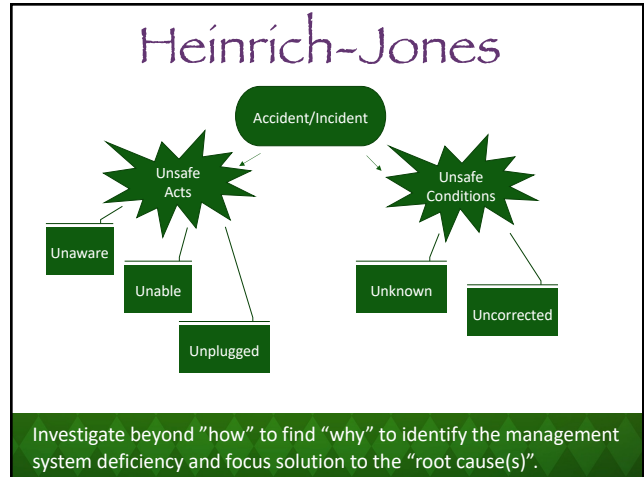
-Heinrich

We need the Why, not just the How

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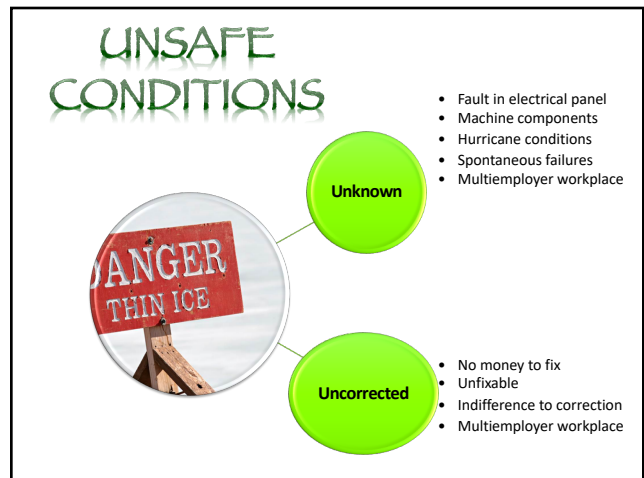
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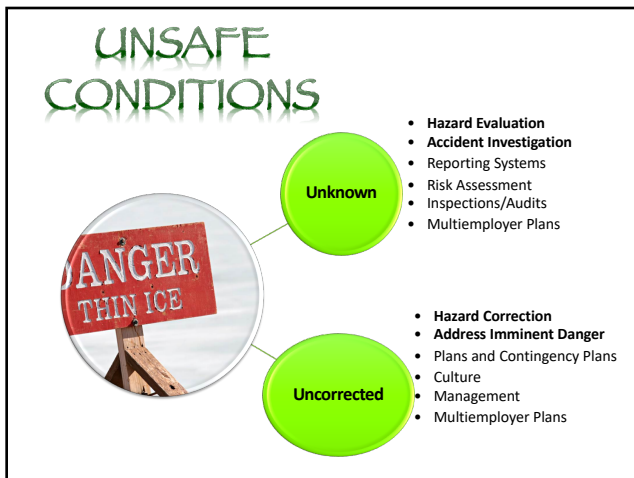
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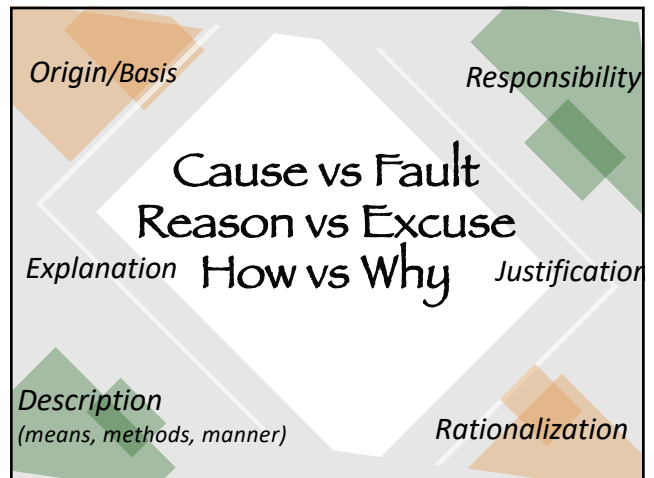
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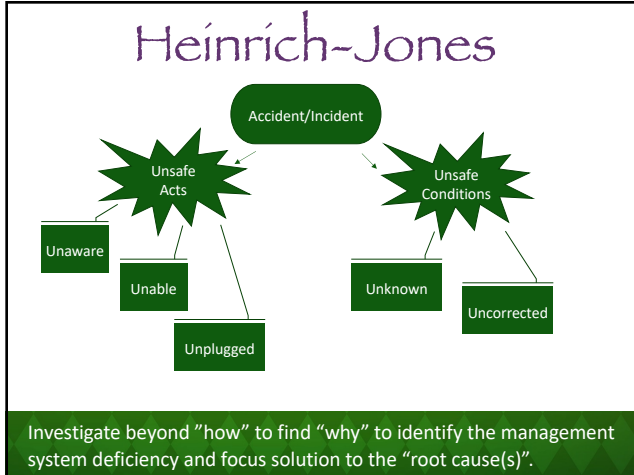


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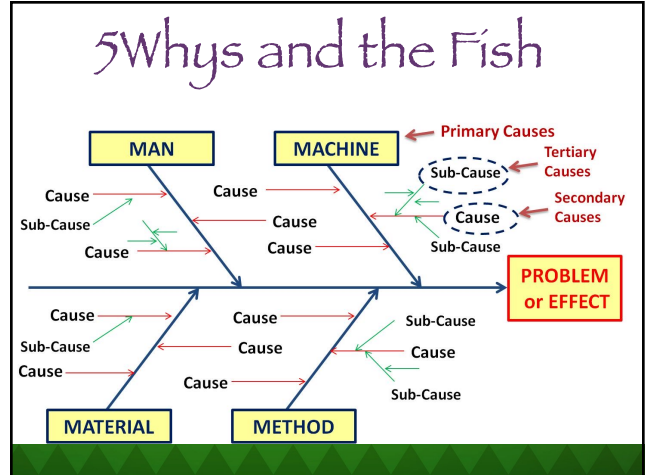


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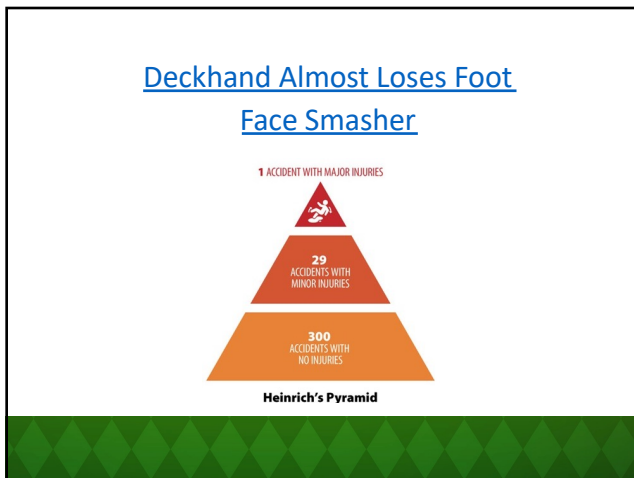




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public agency risk management association

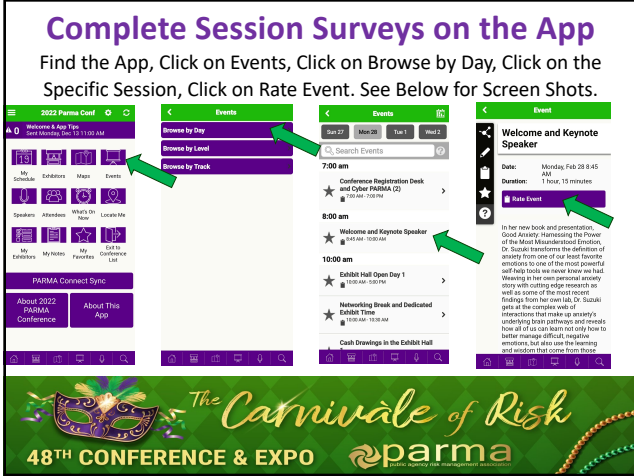
# Thank You!

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