

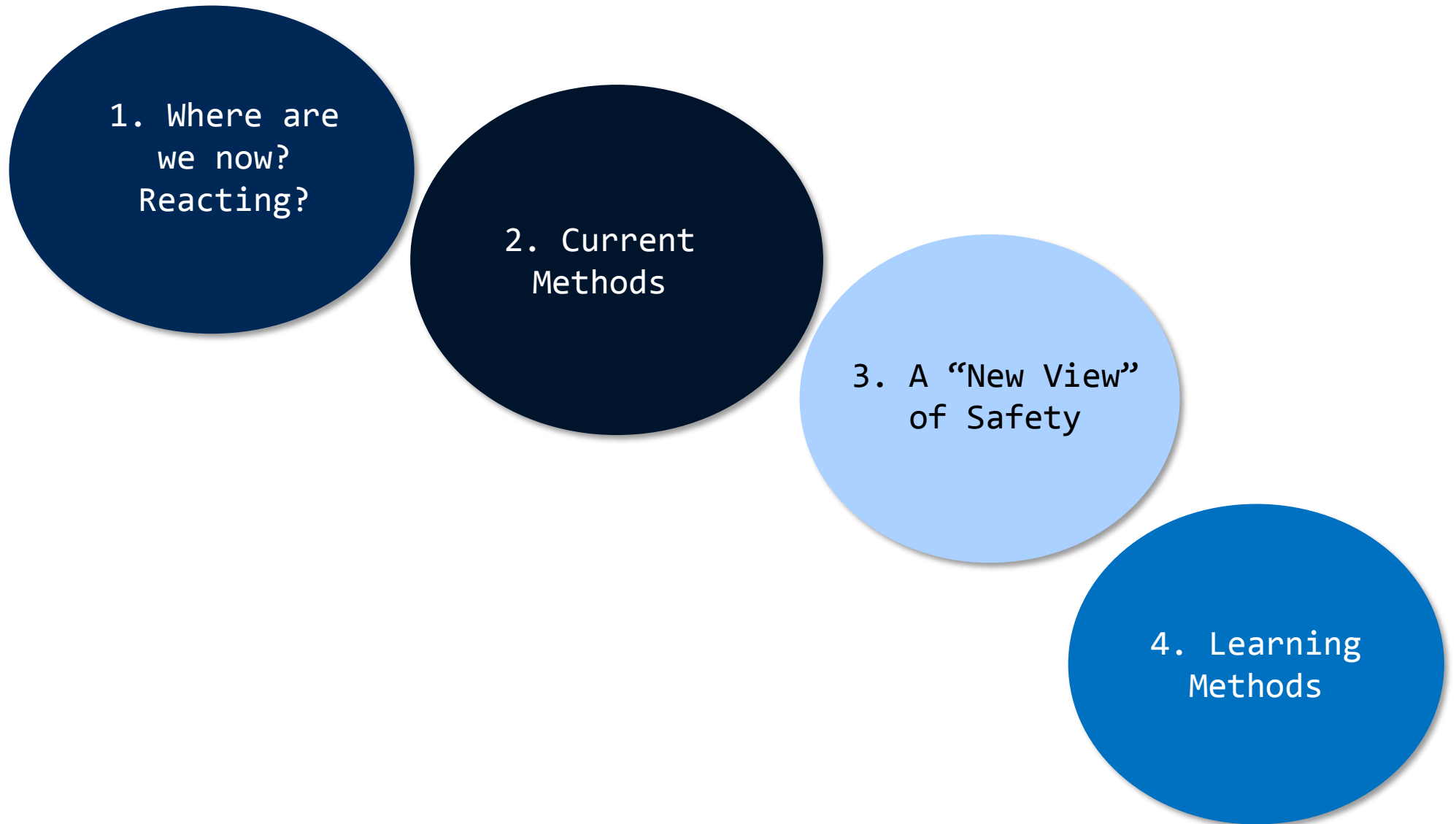


S O U T H P A C  
aerospace



# FROM REACTING TO LEARNING...THE NEXT STEP IN AVIATION SAFETY

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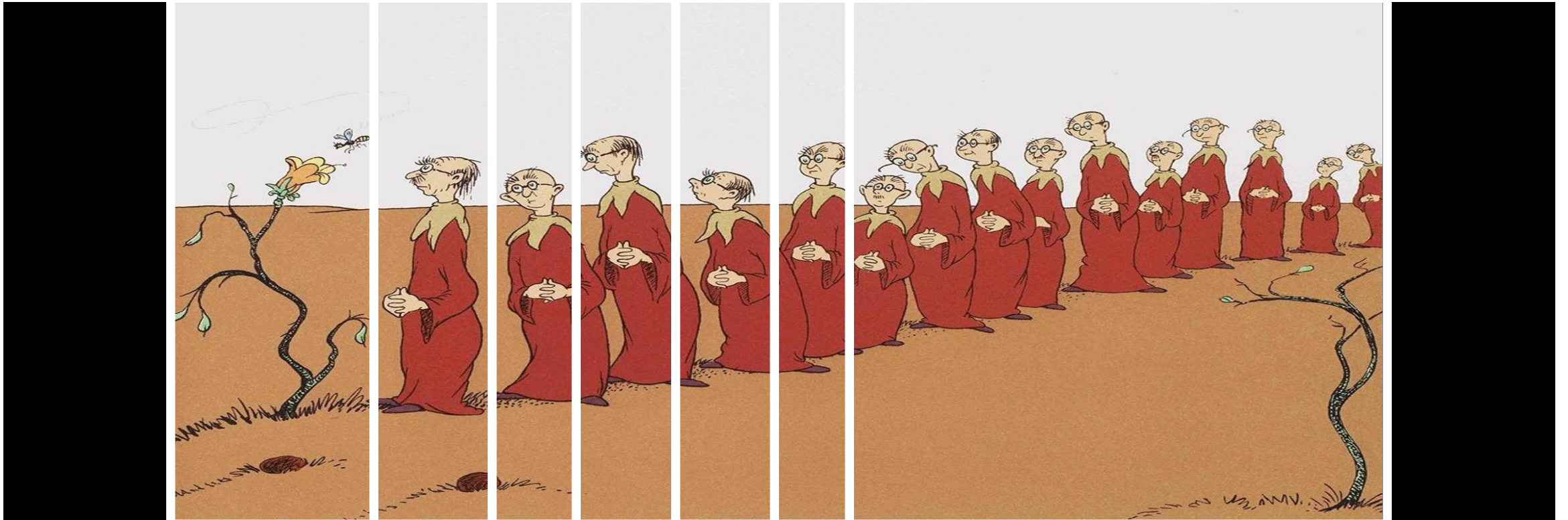
# CONTEMPORARY SAFETY?

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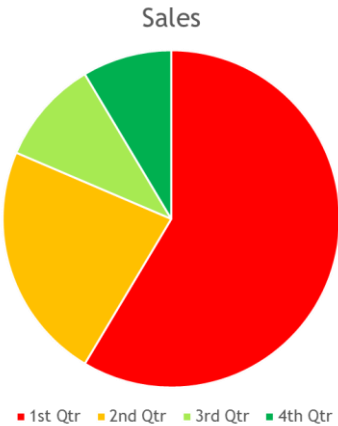
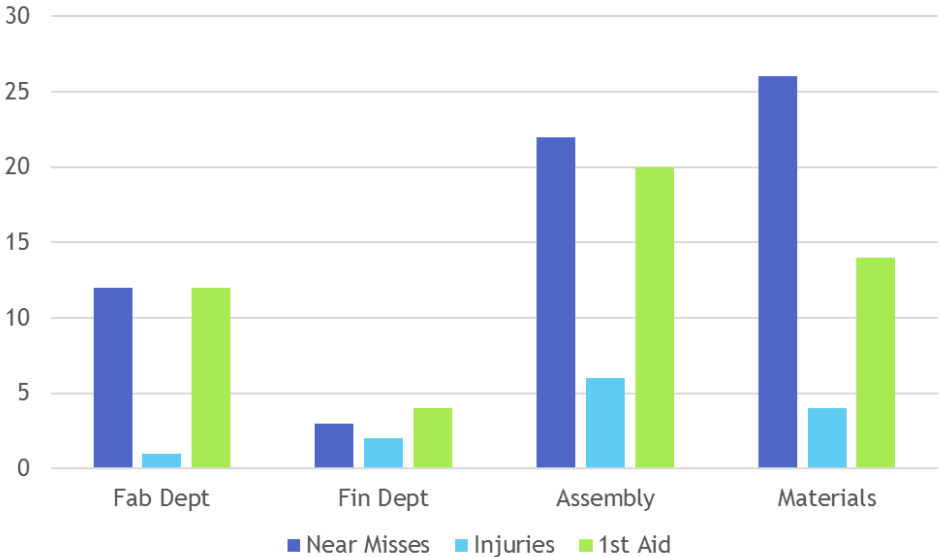
# COMPLIANCE MONITORING

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# DASHBOARD SAFETY – CRAZY METRICS & RIGID RULES

You've heard it said,  
**“what gets measured, gets done?”**





International Standards  
and Recommended Practices



Annex 13  
to the Convention on  
International Civil Aviation

# **Aircraft Accident and Incident Investigation**

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# COMMON 'CAUSES' AND FIXES

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CAUSES	FIXES
Operator did not follow procedure	Remind all operators to follow procedures
Did not know about procedures	Issue a "read and sign"
Inadequate procedures	Write another procedure
Operators still not following procedures	Blame the operator – Blame, Shame, Retrain
Operators STILL not following procedures	Fire the operator, "they're a bad apple"

# CAPTAIN HINDSIGHT

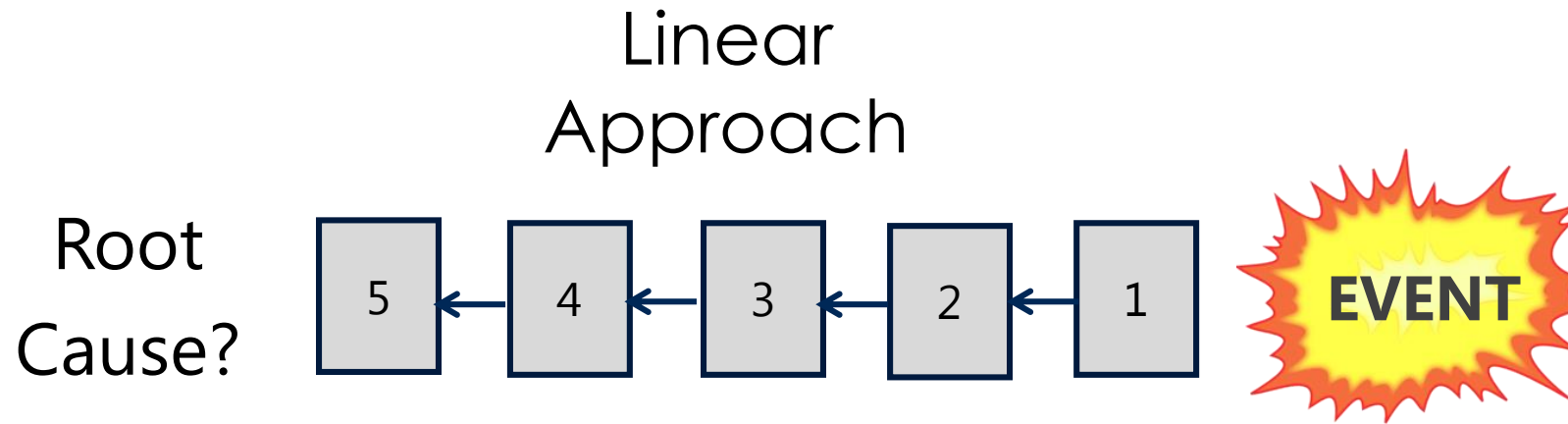
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# LOOKING FOR ROOT CAUSE OR CAUSES...

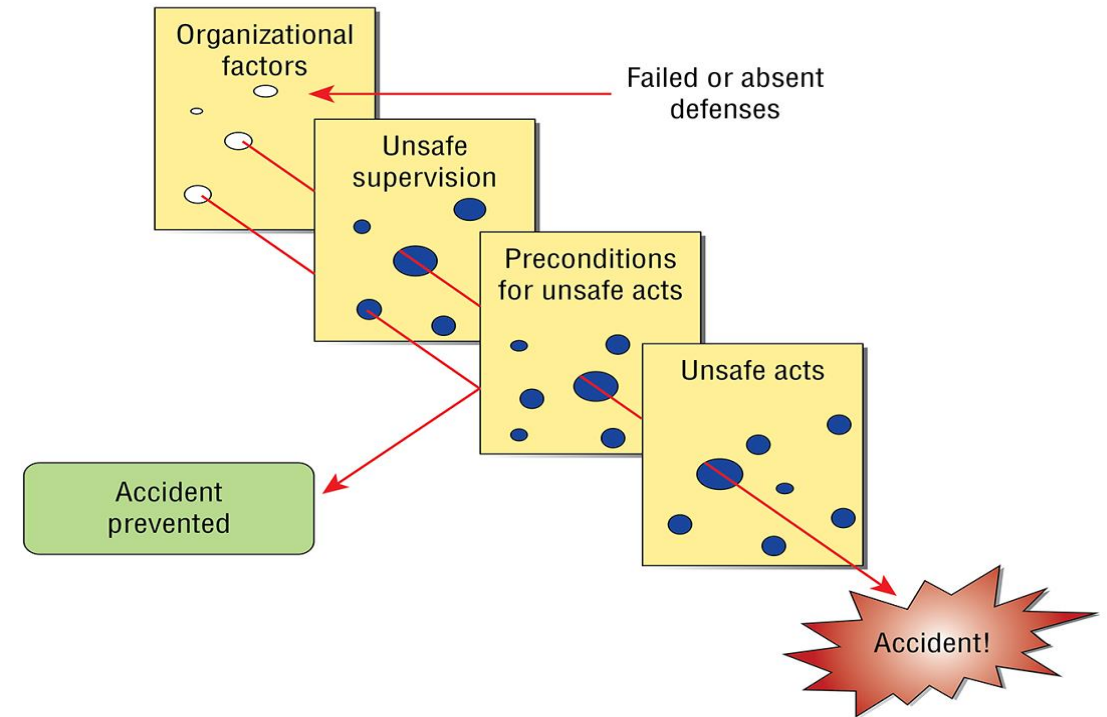
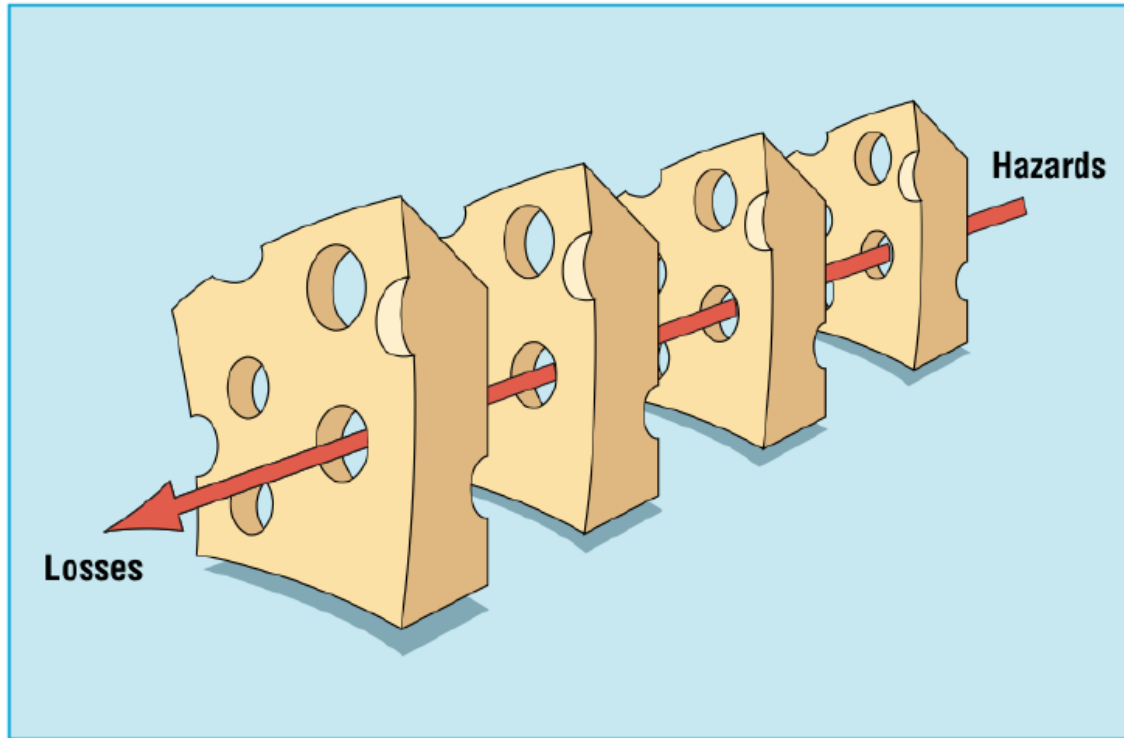
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The problem is, the failure probably was **not linear** . . .

. . . and there almost **NEVER** is one root cause.

# THE DOMINANT ACCIDENT MODEL



# THE SWISS CHEESE FALLACY

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The SCM **does not** provide a detailed accident model or a detailed theory of how the multitude of functions and entities in a complex socio-technical system interact and depend on each other.

REASON ET AL., 2006

# THE SWISS CHEESE FALLACY

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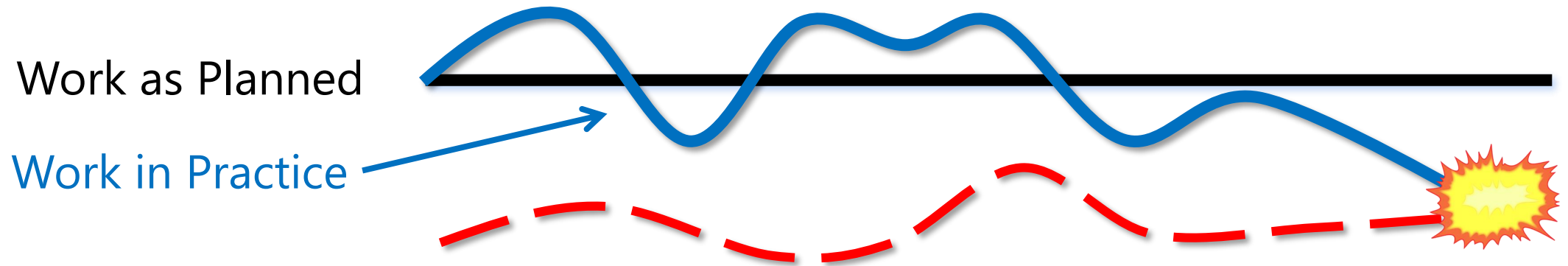


the SCM has an indisputable value as a means of communication, as a heuristic **explanatory** device.

REASON ET AL., 2006



# WORK AS PLANNED vs WORK IN PRACTICE



“Workers are Masters of Complex Adaptive Behaviour”

**“masters of the blue line”**

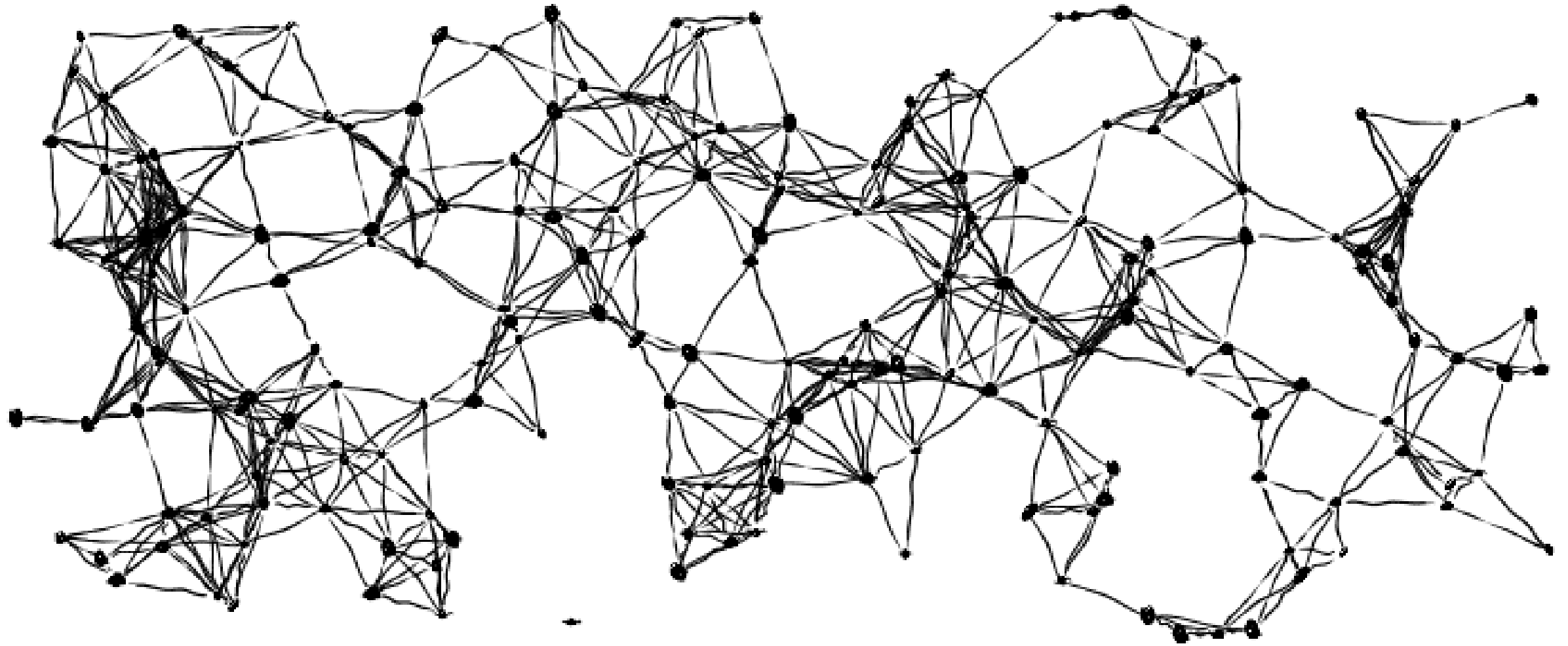
Conklin & Edwards, 2018

# A 'MESSY' STORY

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# COMPLEX VS LINEAR



# A 'MESSY' STORY

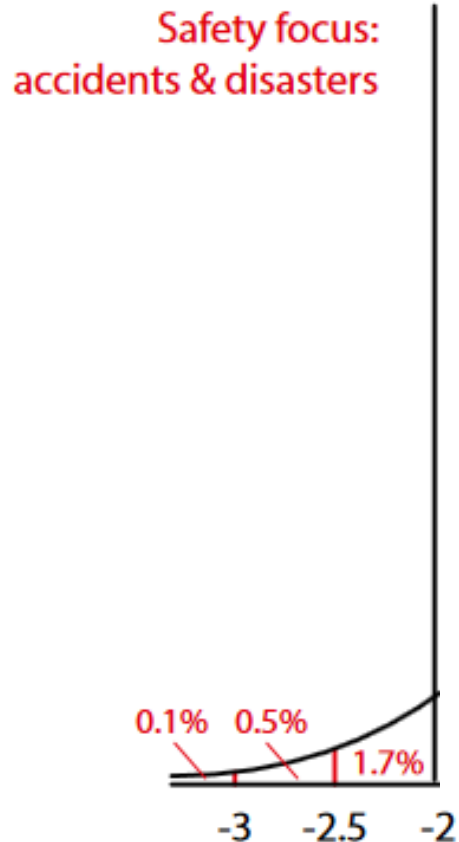
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**Workers  
Are Masters of  
Complex Adaptive  
Behavior... (Conklin)**



# NORMAL ACCIDENTS?



“

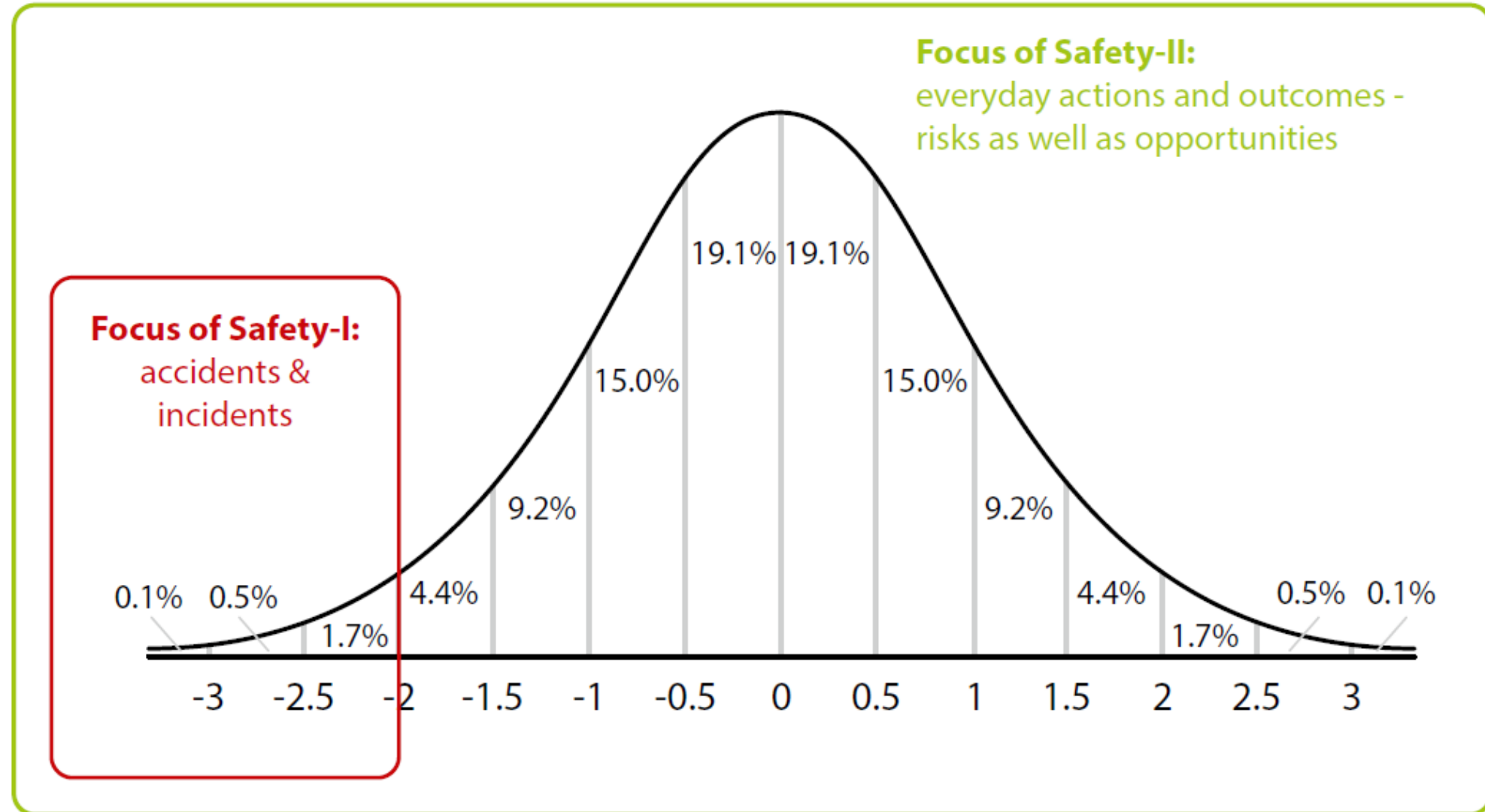
In our passion to understand and create an orderly universe we explain the unusual event by **invoking the usual and proclaiming it to be different**, when of course it is not.

Instead, it is the **obscure, accidental, and even random concatenation of normal disorders** that produces a great even that we assume must have had great causes.

The  
equivalence  
principle...

CHARLES PERROW (1984)

# SAFETY 2



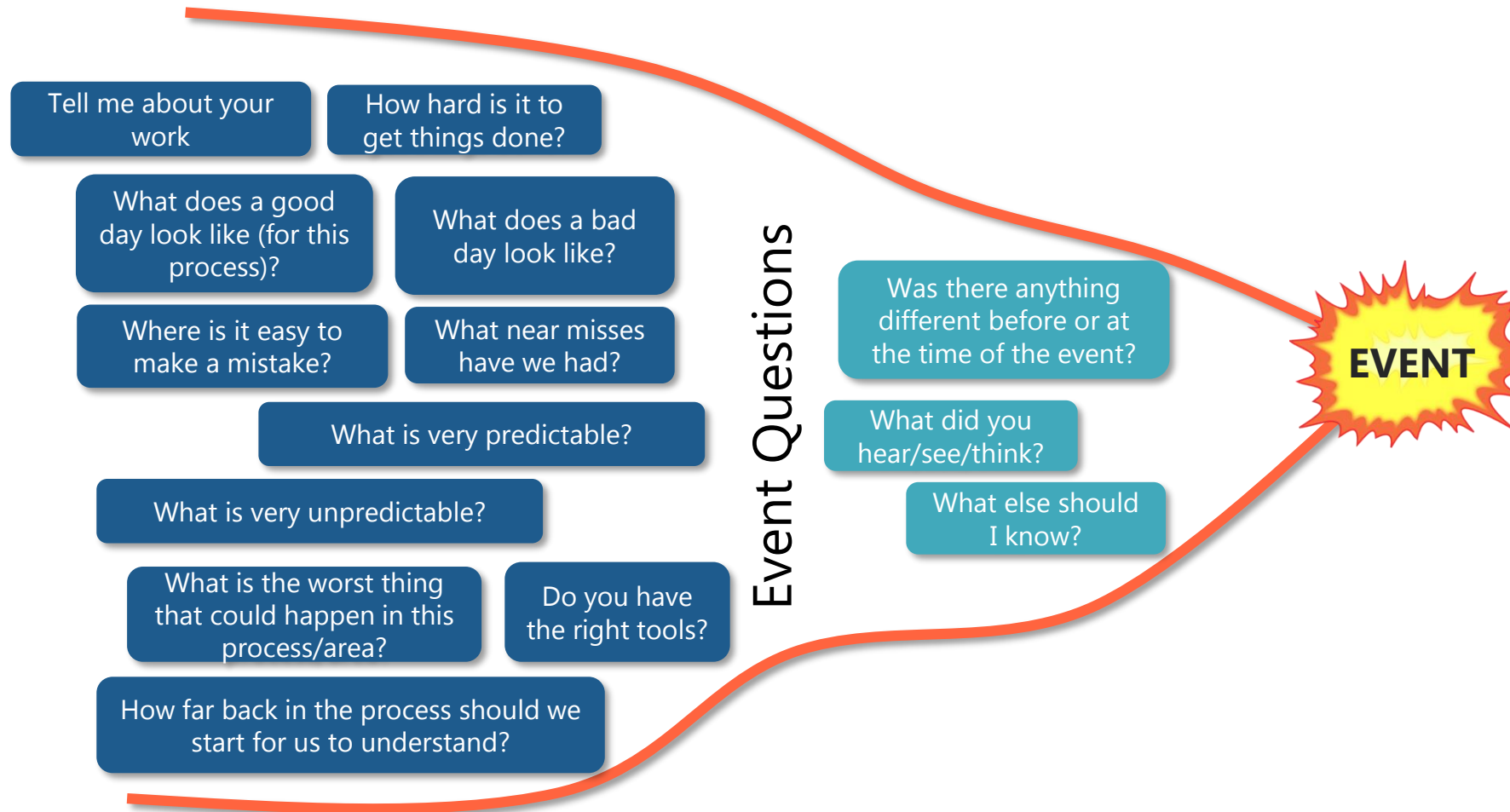
# UNDERSTANDING

if we want better answers...



...we have to ask better questions!

# EXAMPLE QUESTIONS





# THE HOP PRINCIPLES

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error is normal

blame fixes nothing

systems drive behaviour

learning is vital

response matters



**HOP** | LAB

[www.southpacinternational.com/hoplab](http://www.southpacinternational.com/hoplab)



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THANKYOU!