Organizational Introspection
Analysis / Sensemaking

Presentation to:
North American Electric Reliability Corporation

Human Performance Conference

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Its about when the unexpected happens ---

And things that never happened before – now happen all the time!
29 dead – Massey Upper Big Branch Mine, 2010

11 dead - Deepwater Horizon rig, 2010

15 dead, +170 injured, BP Texas City Refinery, 2005
The only constant is ---
“It is only through enforced standardization of methods, enforced adoption of the best implements and working conditions, and enforced cooperation that faster work can be assured. And the duty of enforcing the adoption of standards and enforcing this cooperation rests with management alone.”

Wellman (cited in Suchman, 1995)

*F.W. Taylor* - *Principles of Scientific Management* (1911),
Neuro-science, cognitive science & complex-sociotechnical organization research have disrupted the historical paradigms of human & organizational performance

- Malcom Gladwell – *Blink, Outliers & The Tipping Point*
- Daniel Pink – *Whole New Mind & Drive*
- Nassim Nicholas Taleb – *The Black Swan*
- Daniel Kahneman – *Thinking Fast, Thinking Slow*
“In a time of drastic change it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists.”

Eric Hoffer
"The world we've made, as a result of the level of thinking we have done thus far, creates problems we cannot solve at the same level of thinking"
“By three methods we may learn wisdom: first by reflection, which is noblest; second, by imitation, which is easiest; and third by experience, which is the bitterest.” (Confucius)
**Biases concerning the management of safety:**

**Beliefs about:**

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<th>Organizations</th>
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**Information and Uncertainty**

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Beliefs about: human behavior

We must change the way we think about error and blame – our prevailing beliefs about accident causation, blame and accountability doom us to Normal Accidents!

How do humans behave? What motivates people? Why do people make errors / mistakes? How reliable are people in general? How do humans behave in groups /teams? How does the presence of others influence the individual?
Beliefs about: organizations

How can people be influenced / led? What is the most effective way to organize work? How do organizations learn / change? What kind of phenomenon is organizational culture? Is an organization just an aggregate of its individual members?
Beliefs about:
Information and uncertainty

How can safety be measured? What is considered valid information? How can information be gathered? What are the uncertainties associated with information? What are “risks” and “probabilities”?
Beliefs about:
Safety models

How do accidents happen? What is safety? Is it possible to predict humans in accidents or safety? How do organizations contribute to safety? What is safety culture? How does occupational safety differ from e.g. process safety?

All Models are wrong --- but some are useful
‘There is no such thing as a dysfunctional organization, because every organization is perfectly aligned to achieve the results it gets.’

_The Practice of Adaptive Leadership_: Ronald Heifetz, Alexander Grashow and Marty Linsky
Complexity & change require “alternative analysis” – aka Sensemaking

• Traditional analysis generates forecasts or explanations based on logical processing of available evidence (e.g. linear time line, barriers, statistical treatment)

• Alternative analysis seeks to help analysts and policy-makers stretch their thinking through structured techniques that challenge underlying assumptions and broaden the range of possible outcomes considered (e.g. scenarios, appreciative inquiry, assumption surfacing)

See for instance – “Sensemaking; A Structure for an Intelligence Revolution” NATIONAL DEFENSE INTELLIGENCE COLLEGE WASHINGTON, DC March 2011
Strategy for seeking reliability in sociotechnical systems

\[ \text{Re} + \text{Md} = \emptyset \text{E} \]

\[ (\text{Re}/\text{Md}) \Delta W \rightarrow \emptyset \text{E} \]

- Re – increase mindfulness to notice and mitigate risk
- Md – maximizing defense effectiveness
- \(\Delta W\) – work as imagined vs. work as done
- \(\emptyset \text{E}\) – no consequential events
Successful organizations seem to do four things very well:

- Constantly seek to predict the next failure
- Consistently reduce operational complexity
- Act with urgency to pre-cursor data
- Respond to actual events with deliberation
The task of leadership is to create an alignment of strengths in ways that make a system’s weaknesses irrelevant.”

Peter Drucker
Leadership Questions –

- How does the organization react to ambiguous danger signals?
- Is the organization capable of building organizational redundancy?
- How does the organization handle conflicting objectives when safety is involved?
- How are safety critical tasks handled across organizational borders?
• Beware the illusion of certainty
• Surviving change requires learning
• We represent reality through models
• All models are wrong; some are useful
• Cause is created, not discovered
• Analysis allows us to learn if events fit our existing models
• Sensemaking allows us to challenge existing models & create new ones

Our experience of life is a team sport