

# Group Discussion: Decision Making in Managing Risk

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*“2020 Vision – A Critical Look at Key IH Issues”*

*Yuma Pacific-Southwest Section meeting  
January 23-24, 2020*

**Charles Redinger, Ph.D. MPA CIH**  
*Redinger 360, Inc.  
Harvard, Massachusetts*

## Meeting Kick-Off

# Key Issues for the Next Decade

- **Understanding and Managing Risk**
  - Most topics are risk related (technology, psychosocial policy, microbiome, talc)
  - Linear no threshold model
  - Beyond risk assessment

# DMMR Genesis & Evolution

Redinger/Boelter Collaborations



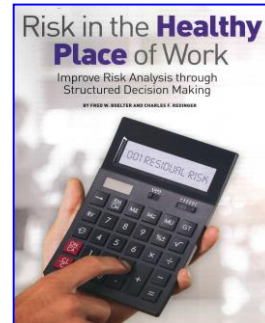
Synergist (Sept, 2015)



Synergist (Jan, 2016)



Synergist (Dec, 2018)



AIHA Risk Committee



Society for Risk Analysis Involvement



# DMMR Genesis

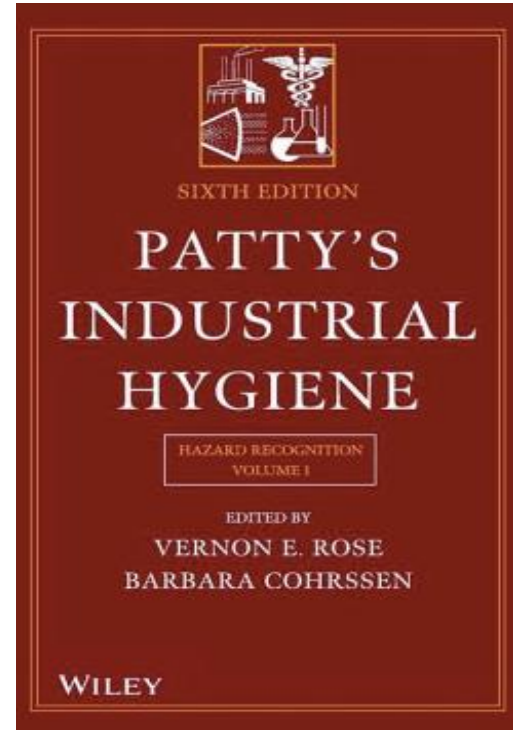
*Patty's Industrial Hygiene, 7<sup>th</sup> Edition*

2017, conversations with Barbara C.  
about risk management and the 7<sup>th</sup> Ed.

Redinger OHSMS chapter, 5<sup>th</sup> & 6<sup>th</sup> Ed.;  
Boelter HHRA chapter, 6<sup>th</sup> Ed.

Co-authors – John Howard, Mary  
O'Reilly, and Glenn Barbi

First time addressing this in Patty's



# Traditional RM Thinking



Valuable/Important

But the way this is queued up is...

**BORING**

# Chapter Table of Contents

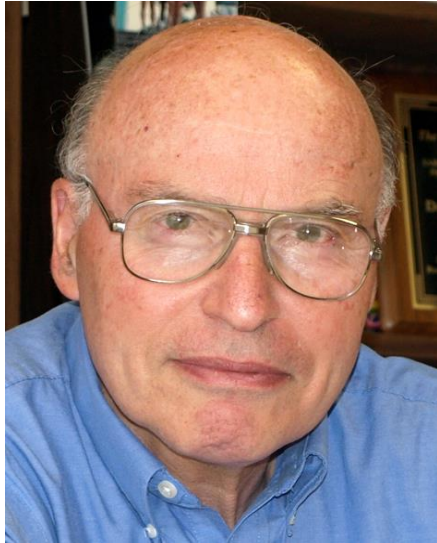
## Table of Contents

1. **INTRODUCTION**
2. **DECISION SCIENCE**
3. **DEVELOPING A RICHER VOCABULARY**
  - 3.1 Judgment and choice
  - 3.2 Risk domains and frameworks
  - 3.3 Risk realms
  - 3.4 Context, framing, and narrative
4. **THE HUMAN OPERATING SYSTEM IN DECISION MAKING**
  - 4.1 A two-system brain
  - 4.2 Perception
  - 4.3 Brain Function
  - 4.4 Ethics
5. **EVOLUTION IN RISK THINKING**
  - 5.1 The National Academy of Sciences and governmental organizations
  - 5.2 Non-governmental organizations
  - 5.3 Risk transfer
  - 5.4 Risk and opportunity
6. **DECISION MAKING CURRENCY**
  - 6.1 Inference guidelines
  - 6.2 Residual and acceptable risk
  - 6.3 Uncertainty
7. **STRUCTURED DECISION MAKING**
8. **ORGANIZATIONAL RISK MANAGEMENT FRAMEWORKS**
  - 8.1 Historical background
  - 8.2 Enterprise risk management (ERM)
  - 8.3 International Organization for Standardization (ISO)
9. **IMPROVING DECISION MAKING**
  - 9.1 Systems thinking
  - 9.2 Systems thinking iceberg
  - 9.3 Deeper levels
  - 9.4 Broadening perspective
  - 9.5 Leading change
  - 9.6 Creating a new narrative
10. **THE ART AND SCIENCE OF DECISION MAKING**
11. **BIBLIOGRAPHY**
12. **SUGGESTED READING**

Today's Focus

# Context Matters

*Is Risk Real? And, to Whom?*



“Risk does not exist out there, independent of our minds and culture, waiting to be measured. Human beings have invented the concept of risk to help them understand and cope with the dangers and uncertainties of life. Although these dangers are real, there is not such thing as real risk or objective risk.”

**Who’s the expert? Who gets to say?**

Paul Slavic

*Luminary and trailblazer in risk science*

# Key Points

Risk is not absolute, it's subjective.

**What's Important? What are the drivers?**

Risk assessment and management are chocked full of paradox and tension.

**What skills are need to navigate these?**

Residual risk is ever present

**How do you identify this (these)?**

Risk transfer is often overlooked and not considered.

**To whom (what) is something a risk?**



# Expanding Context

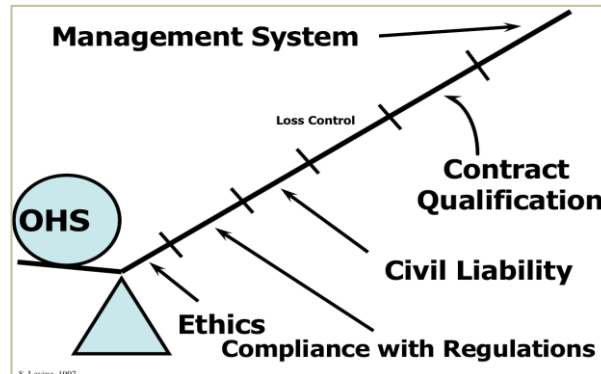
*Some of my journey and influences*

**Larry Birkner**



*“By understanding the big-picture forces outside the profession that shape the future and by studying probabilities through scenario building, OEHS professionals can provide the leverage needed to balance economic growth and activity with reasonable protection of human health and the environment”*

**Steve Levine**



# Expanding Context

*Some of my journey and influences*

## Jeff Lee



IOHA 1997

Your work is important.

Don't give up.

Keep pushing the envelop.

Keep an eye on Steve



## Mom & Dad



Civil rights leaders, social activists.

Big picture.

Strength in the face of fear.

Tenacity.

Values and what's important.

# Improving Judgment and How Choices are Made

*Richer and More Precise Language and Vocabulary*



*Daniel Kahneman  
Thinking Fast and Slow  
(and Amos Tversky)*

“An organization is a factory that manufactures judgments and decisions. My aim for water cooler conversations is to improve the ability to identify and understand errors of judgment and choice, in others and eventually in ourselves, by providing a richer and more precise language to discuss them. Learning medicine consists in part of learning the language of medicine. A deeper understanding of judgments and choices also requires a richer vocabulary than is available in everyday language”

# This Meeting's Happenings

- ✓ **Occupational robotics**
- ✓ **Psychosocial health trends**
- ✓ **Talc primer**
- ✓ **Linear no threshold model limits**
- ✓ **Levitate Technologies tour**
- ✓ **AIHA /ACGIH/NIOSH updates**
- ✓ **Climate change and impacts health and safety**
- ✓ **Measuring up – meaningful health metrics**
- ✓ **Microbiome and health**
- ✓ **Beyond risk assessment**

# Queuing Things up

*Framing DMMR and Decision Currency*

## Decision Levels

Science/Technical

Public Policy/Regulatory

Organizational/“Leadership”

Community/Social

Personal

## Measurement Levels

Nominal

Ordinal

Interval

Ratio

# Risk Management Drivers in Worker Health

Exposure Assessment (AREC)

Regulatory Compliance

Standards Conformance

Evolving/Expanding Scope

Organizational Risk

# Risk Realms and a Risk Triangle

New Language/Vocabulary for Industrial Hygienists & EHS Professionals



*It is at this intersection that a social field can be identified, accessed, cultivated, and leveraged to increase risk awareness, resilience, and decision-making.*

*From Naomi Swanson's presentation*

## What Work Skills Are Needed For the Future?

- Sense-Making (a growing distinction, closely linked to DMMR)
- Social Intelligence
- Novel and Adaptive Thinking (Systems Thinking)
- Cross-Cultural Competency (communication skill, e.g. dialogue, listening)
- Computational Thinking
- New-Media Literacy
- Trans-disciplinarity (expanding skills can be challenging)
- Design Mindset
- Cognitive Load Management → *ability to discriminate and filter information for importance, and to understand how to maximize cognitive functioning using a variety of tools and techniques*
- Virtual Collaboration

(Institute For the Future, 2011)



# Discussion

Risk is not absolute, it's subjective.

**What's Important? What are the drivers?**

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**What skills are need to navigate these?**

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**How do you identify this (these)?**

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Thank You

Final comments, observations.