

‘Resilience and Handover’

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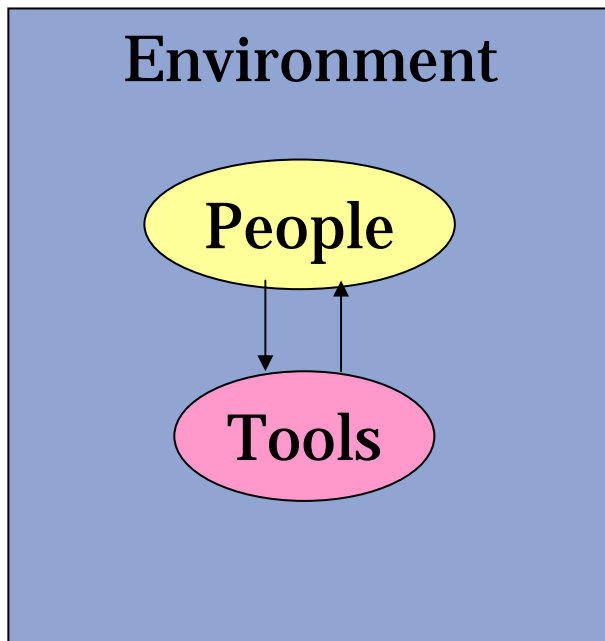


Centre of
Research Excellence
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Lessons for Healthcare

- Human Factors



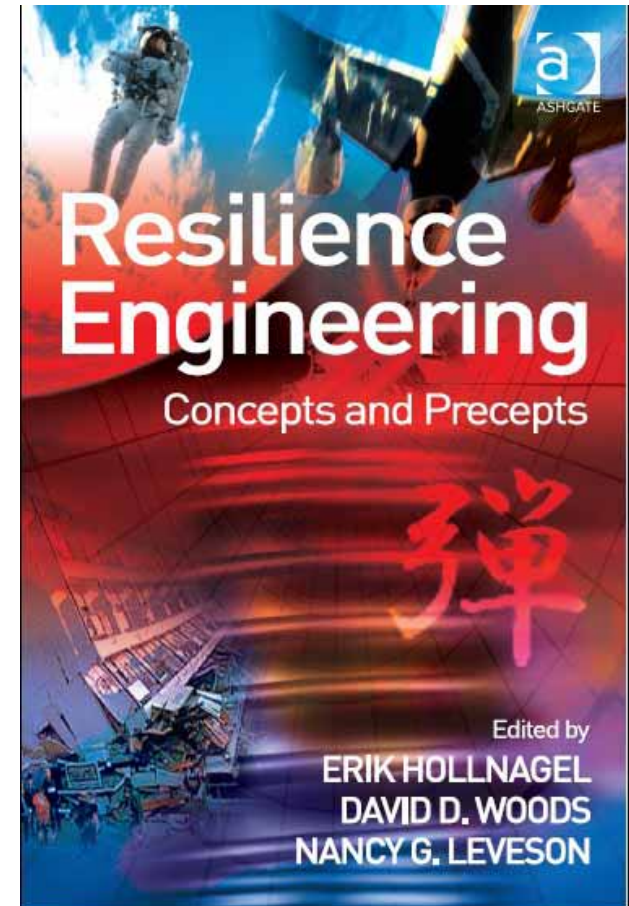
- High Reliability





Talk Outline

- What is Resilience?
- Rasmussen's Theory
- Case of UK Railways
- What can Health learn?
- What can Handover learn?
- Where do we go from here???





What is Resilience?

Here are some fancy “human factors” definitions to bamboozle you...

- “Resilience is the broad application of failure sensitive strategies that reduce the potential for and consequences from erroneous actions, surprising events, unanticipated variability, and complicating factors” (Woods and Shattuck, 2000)
- “Resilience [engineering] focuses on what sustains or erodes the adaptive capacities of the human-technical system in a changing environment (Patterson et. al, 2005)
- “Resilience appears to have everything to do with learning about, and adapting around, multiple goals, hazards & trade-offs” (Cook, 1998)





What does that mean?

Resilience is about transforming lessons from past failures into future success by understanding how humans bridge gaps

Ability to prevent something bad happening

- *'Foresight'*

Ability to prevent something bad becoming worse

- *'Coping'*

Ability to recover from something bad once it has happened

- *'Recovery'*





But what does it actually mean?!

- **Old View:**
 - **Ethos** - ‘erratic people degrade an otherwise safe system’
 - **Approach** – reactive, error counting, focus on failure, blame/train
 - **Investigation** – The “first” story

- **New View:**
 - **Ethos** – ‘people are viewed as a primary source of resilience in creating safety’
 - **Approach** – proactive, learning culture, focus on success and system “gaps”
 - **Investigation** – The “second” story





What goes wrong

- **Old View**
 - Humans cause trouble
 - Investigate errors, violations, incompetence
 - Search for people's inaccuracies
- **New View**
 - Humans symptom of deeper system trouble
 - Do not try to find where people went wrong
 - Why did people do what they did at that time?

(Dekker, 'The Field Guide to Understanding Human Error', 2006)





How to make it right

- **Old View**
 - Complex systems are safe
 - Erratic humans undermine defenses
 - Restrict human contributions
- **New View**
 - Complex systems are NOT safe!
 - Constant safety and efficiency trade-offs
 - Safety involves all levels of the organisation

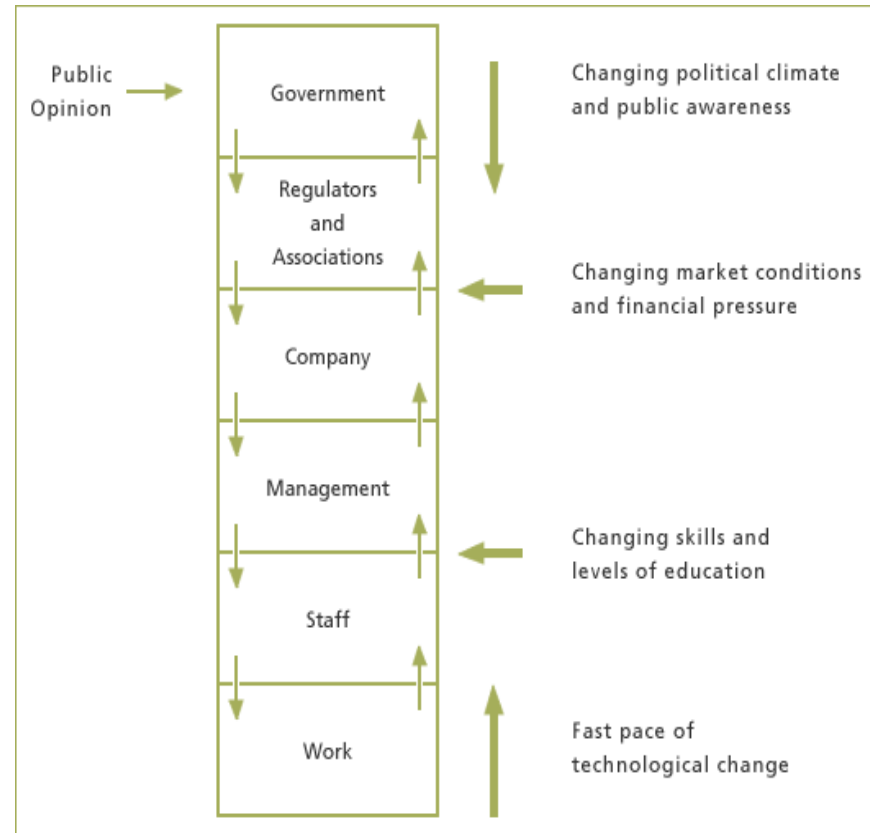
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Rasmussen (Part One)

Structural
representation
of various actors
in complex STS



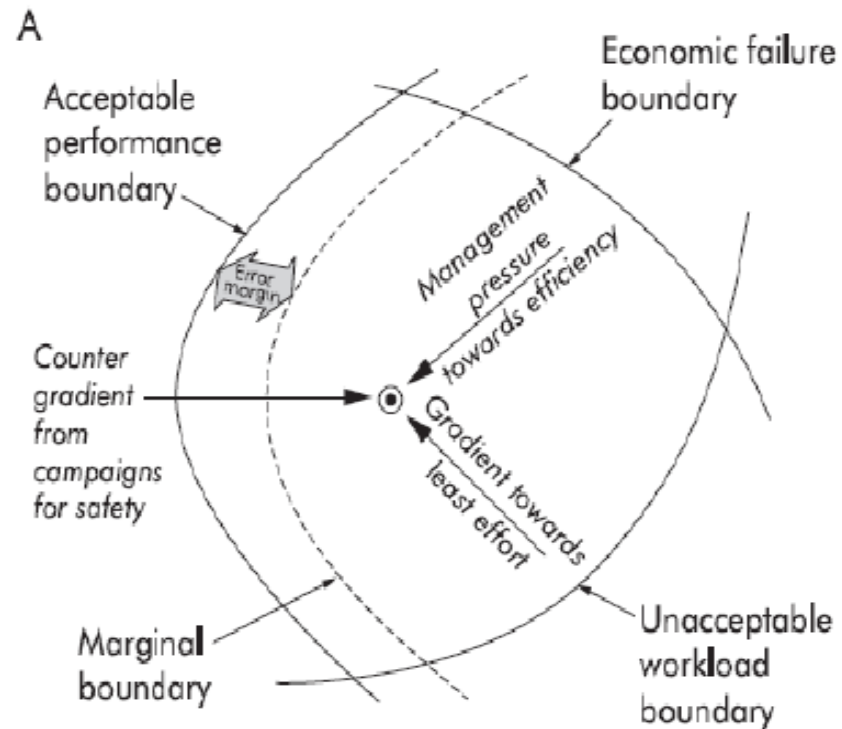
(Adapted from
Rasmussen, 1997)





Rasmussen (Part Two)

Dynamic forces modify structure and behaviour over time



Modified from Rasmussen

(Adapted from Rasmussen, 1997)





Fill your belly, Watch your back!





Case of the UK Railways (I)

- Did 1993's privatisation close the safety envelope?
 - Greater emphasis on commercial concerns and financial incentives in place which promoted performance pressure
- Are the many crashes proof???
 - Southall (09/97)
 - Ladbroke Grove (10/99)
 - Hatfield (10/00)
 - Potter's Bar (05/02)
 - More than 50 dead, 100s injured





Case of the UK Railways (2)

- So, unlike the Geese, did train operators take their eyes off safety to focus on simply feeding their bank accounts?
 - Widespread perception across media and general public
 - But TRUTH is that train operators did not choose failure but *drifted toward it* as the restructuring increased production pressures and eroded defenses that normally keep failure at bay
- Should healthcare be worried?
 - King Edward Memorial (1999)
 - Canberra (2000)
 - Campbelltown & Camden (2002)
 - Bundaberg (2005)





So, what can health learn?

- Rasmussen reminds us that success lies with being able to balance economic, workload and safety pressures
- Indeed, the “new look” paradigm supports our need to try and aid people under pressure from conflicting goals to cope with complexity
- Attempts to improve patient safety need to thus focus on:

“...increasing system resilience by investing in a context-sensitive understanding of the gaps that arise in system operation and the expert strategies that are used to bridge these gaps in practice.”

(Patterson et. al, 2005)





And what can handover learn?

- Handover has many such gaps!
 - SMALL GAPS: e.g. patient transfers between facilities
 - LARGE GAPS: e.g. patient transfer to the OT within a facility
- We need to:
 - Characterise these gaps
 - Learn how they develop
 - Understand how they manifest themselves in particular contexts
 - Understand how they impact care
 - Understand how experts successfully bridge gaps

(Cook et. al, 2000)





But what are the challenges...

- The successful bridging of gaps by experts limits the impacts of those gaps and thus their significance
 - Remember that Weick (1987) described safety as a “dynamic non-event” ...it can be hard therefore to show system benefits and justify research spending on how people don't fail
- When we use foresight, coping and recovery to bridge gaps there is no overt failure event
 - People can undermine their strategies which actually vitally kept them inside the safe working envelope





And what are the best methods?

- In-depth, context-specific study at frontline
- Learn expert strategies for bridging gaps (Cook et al., 2000)

TWO KEY STRATEGIES (Patterson et al., in press)

1. Detailed analysis of “near miss” events
 - Discover barriers to and sources of resilience
2. Use of simulation
 - Patients not put at risk





Where do we go from here???

Managers and clinicians should be provided with:

- information about changing vulnerabilities (“gaps”)
- assistance in innovating new ways of adaptation (“bridges”)

Essentially, Resilience is a new concept for us to think about when we are considering handover - and how to focus on success, not simply failure!!!





THE END: Thank You 😊

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