

MARITIME

Human Factors issues relating to inspections and audits

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What is the state of the industry?

- **Risk exposure** is increasing:
 - The world fleet continues to **grow**;
 - **Costs** remain under scrutiny; and
 - Difficulties in retaining **competence**.
- **Zero tolerance** attitude to incidents, increased transparency and media exposure results in **higher consequences**.
- **Shaming** and **blaming** professionals
 - In recent years we have witnessed two experienced Captains being **humiliated** and eventually **criminalized**.
 - Accidents with no evil intentions are being turned into **acts of crime**.
 - Veteran Captains and 'experts' found it difficult to understand the '**erratic**' behaviour and '**selfish**' actions of the Captain in one case, let alone the public.



Inspections & Inspectors

Why don't we Learn from Inspections/Audits

- In recent years, the spread of inspections and other forms of enforcement (audits, surveys, vetting, assurance etc.) **has reached a stage of 'explosion' both in terms of scope and frequency.**
- There is a real concern that the enforcement regime, i.e. compliance with rules, regulations and industry standards, has **fallen victim to its original intentions of managing safety risks.**
- The **tolerance for human imperfection and technical failures is close to non-existent.** But this behaviour is a symptom of deeper problems within the industry.
- **The content of inspection report may sometimes tell us more about the biases and competences of the evaluator** (inspector) than any genuine reflection of the evaluated (vessel).



WHAT YOU SEE IS NOT ALWAYS WHAT YOU GET!

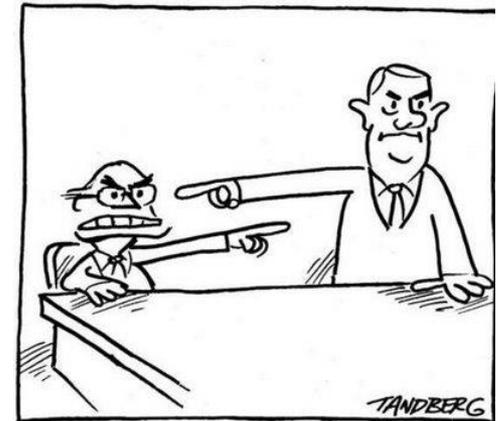
- **Culture surrounds us and influences the values, beliefs and behaviours.** The western world's approach to management is based on an emotionally detached rationality. It assumes that human cultures in the workplace should resemble the laws of physics or engineering, and therefore have universal application, this assumption reflects a western cultural bias.
- Maritime safety must transcend national boundaries, including all the cultures therein. Nevertheless, in spite of assertions that maritime is free from the influences of cultural factors, **one does not have to be particularly discerning to detect differences in how people respond in similar situations.**
- Some people are reticent about acknowledging that cultural differences exist, finding such thinking simplistic, primitive and even immoral. This results in a type of **cultural blindness** that perpetuates the false assumption that we all see things and behave in the same way. Clearly, we do not.

DEALING WITH BIAS

- Judgement is shaped by personal experience. Based on a lifetime of personal experience, we all develop **mental models** that, in general, serve well for quickly evaluating everyday situations intuitively in the absence of a complete set of facts. **Unfortunately, many of these mental models reflect personal bias.**
- The following are some of the basic biases often quoted
 - **Frequency bias** - evaluation is based solely on reference to personal experience and the assumption that such experience is universal.
 - **Selectivity bias** - based on a restricted set of facts and to ignore those facts that do not fit into the expected pattern.
 - **Familiarity bias** - There is a tendency to do things in accordance with the patterns of previous experience even if they are not the optimum solutions.
 - **Conformity bias** - This describes the tendency to look for results that support a decision rather than for information that would contradict it.
 - **Overconfidence bias** - The defining characteristic of an overconfidence bias is that attention is given to certain information because an individual overestimates the validity of their knowledge of the situation and its outcome.

DEALING WITH BIAS

- We tend to seek information that will confirm what we already believe to be true. **Information that is inconsistent with our chosen hypothesis is then ignored or discounted.** As the old saying goes: “You don’t get a second chance to make a first impression”.
- While experience can be valuable in helping focus attention on those things that are most likely to be problematic, **we should recognize that by following these familiar patterns we may overlook critical information.**
- The management gurus exhort us to “think outside the box”. **Auditors must recognize that first impressions (or any other impressions acquired before arrival for the audit) may not match the current reality.**



Strongly linked to the question of culture is language

- **A fundamental source of problems** in cross-cultural transactions. With English nominally being the language of maritime , much of the auditors' work involves written and oral communications in English.
- When working in English, **the language barrier** may disrupt effective communications when English speakers interact with non-English speakers and non-English speakers interact with other non-English speakers. Even when English speakers interact with other English speakers **there may be significant differences in perception.**
- In collectivist cultures with a high power distance ratio, a strong desire to please (and an aversion to embarrassment) **may lead to the “nod and grin” phenomenon,** i.e. even when people have completely missed the intent of a statement, they may nod in agreement and feign understanding in an attempt to avoid embarrassment —

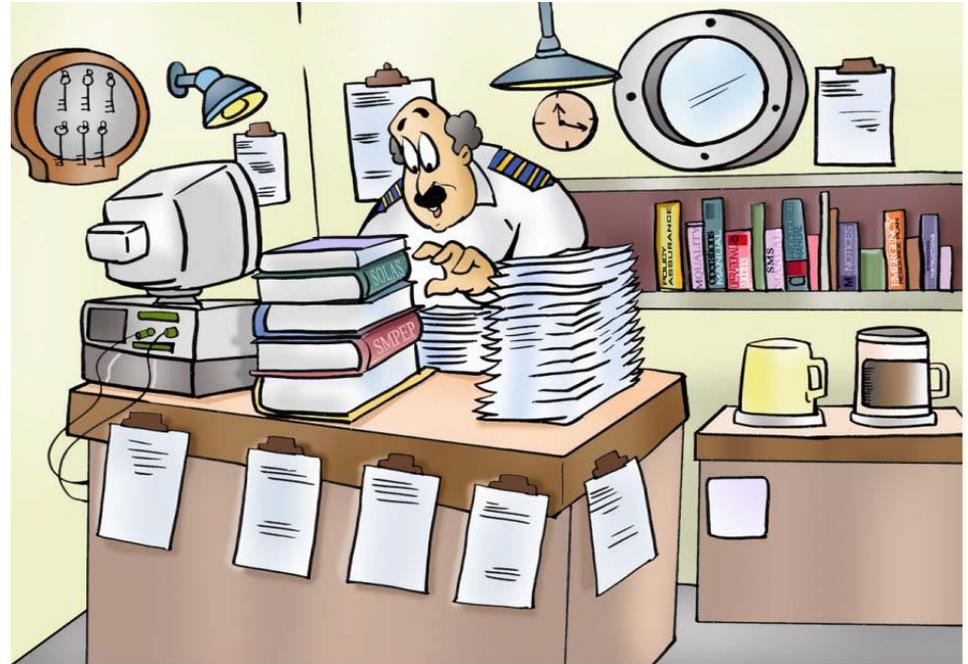
Improving operations through efficient Management Systems

“A set of interrelated or interacting elements of an organization to establish policies and objectives and processes to achieve those objectives.

ISO definition (HLS)

Management systems: the main tool for safe & efficient operations

- A management system is a framework of controls to **manage key processes**, organisational **risks** and drive **continual improvement**.
- The management system is important to the operation of every business because it **guides** the **behaviour** of personnel.
- All companies have a management system but many **struggle** to get their management system **implemented effectively**.



Squire, D. (2004). The importance of the human element in shipping. The Nautical Institute
Captain Richard Madden. *The Maritime Paperwork Monster plus new requirements to get more sleep*. gCaptain, April 25, 2012.

Seafarers struggle with too much administrative work and complicated procedures, also known as the "Paperwork Monster"

Is your management system fit for purpose

- Every single client will say “**a proper clean up of our Safety management system is long overdue**” in order to:
 - Reduce the **administrative burden**; and
 - Make it **clearer** more **precise**.
- **Behaviour** is influenced by **structure** and therefore management systems are:
 - No longer just a tool available to the organization, but are becoming **integral to organizational culture**, supporting its values and goals.
 - Always present and **living part** of the organization.
- A properly **integrated** and **implemented** management system will help:
 - **Actively manage risks** and **continually improve performance**;
 - Minimize **non-value adding activities**;
 - Make the **system relevant** and **clear**; and
 - **Control** over all aspects of the **quality chain**.

The future of management systems

Management system trends

- More emphasis on
 - **risk assessment**;
 - **management of change**;
 - **KPI** evidence of **management system performance**; and
 - **less** emphasis on **procedures** and **audits**.
- Use of **internet communication technology** to perform **remote audits** is coming; and
- **Integrated Management Systems** will become the norm.

How should a good MS look like

- **Paperless**
- Online **web based systems** and communication throughout the company
- **Online records** for everything.
- **Data driven**: Use of data bases for tracking all metrics and good systems for data retrieval, display and analysis.
- **Automated** email **reminders** for actions and activities, etc.
- Use of **available electronics** (smart phones, iPads, wireless)

The way forward

- Equally important is that the enforcement regime should move beyond a culture of **negative reporting** i.e. **non-compliances, failures, defects, detentions and human errors**. Rather, the focus should be on understanding how, despite all the environmental, social and technical obstacles, people generally succeed in carrying out their jobs.
- This leads to an entirely different and motivational language of safety, one that is **characterised by every day trade-offs**, adaptability, adjustments, or 'seamanship' – and **one where human performance is seen as a solution and not the problem**. Hidden in this term 'human performance' are endless stories of success – but also those that could potentially lead to failures.
- It is not difficult to figure this out on a vessel where seafarers **often find ways to carry out tasks differently than set out in procedures** and rules, due to lack of resources, unstable work environment, time pressures, inadequate procedures and substandard designs of vessel and equipment that leave **no choice but to violate those procedures**.

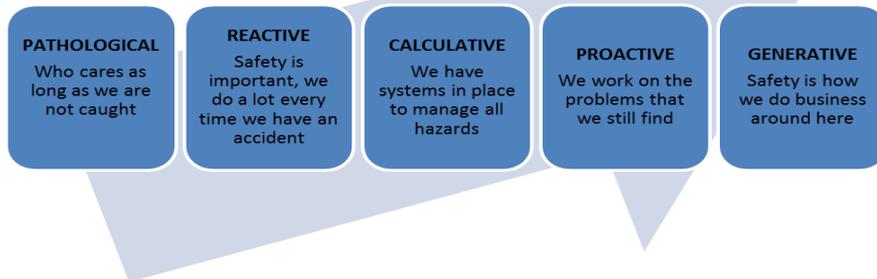
Safety Culture

What is safety culture and why does it matter

What is Safety Culture?

"Safety Culture is the elements or parts of organizational culture that **influence** the organizational members' **attitudes, beliefs, perceptions, and behaviours**, which have an impact on the level of safety within the organization."

A Hale

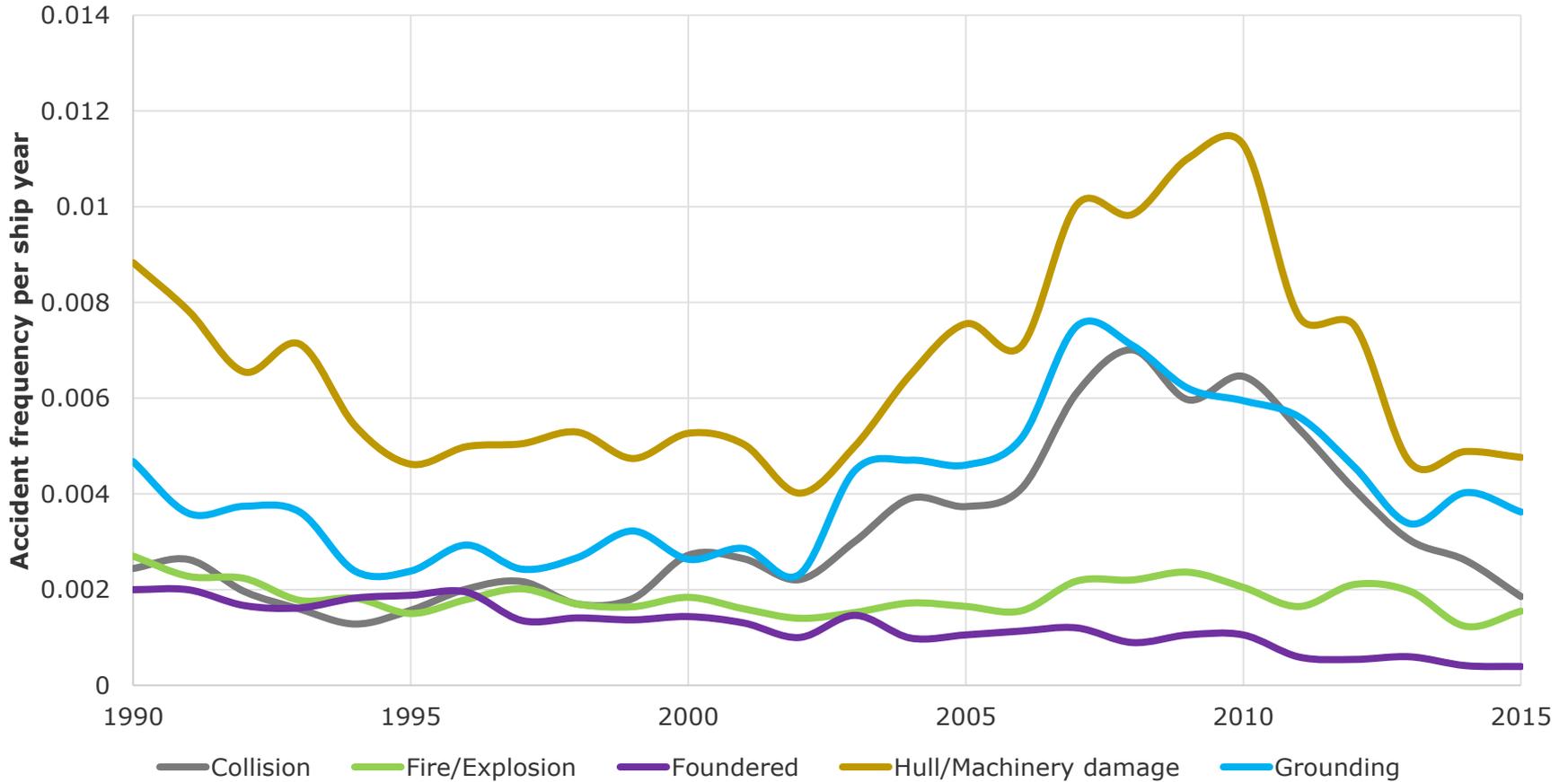


Why it matters

- Culture impacts on the **performance** of the whole organization.
- Maritime **regulatory compliance** alone has **not achieved accident reduction** to the extent of other industries. If we are to improve our safety record, we must properly **address** the **human element**.
- The organization's safety culture can be a **leading indicator** of the vulnerability to incidents and accidents in safety critical industries.

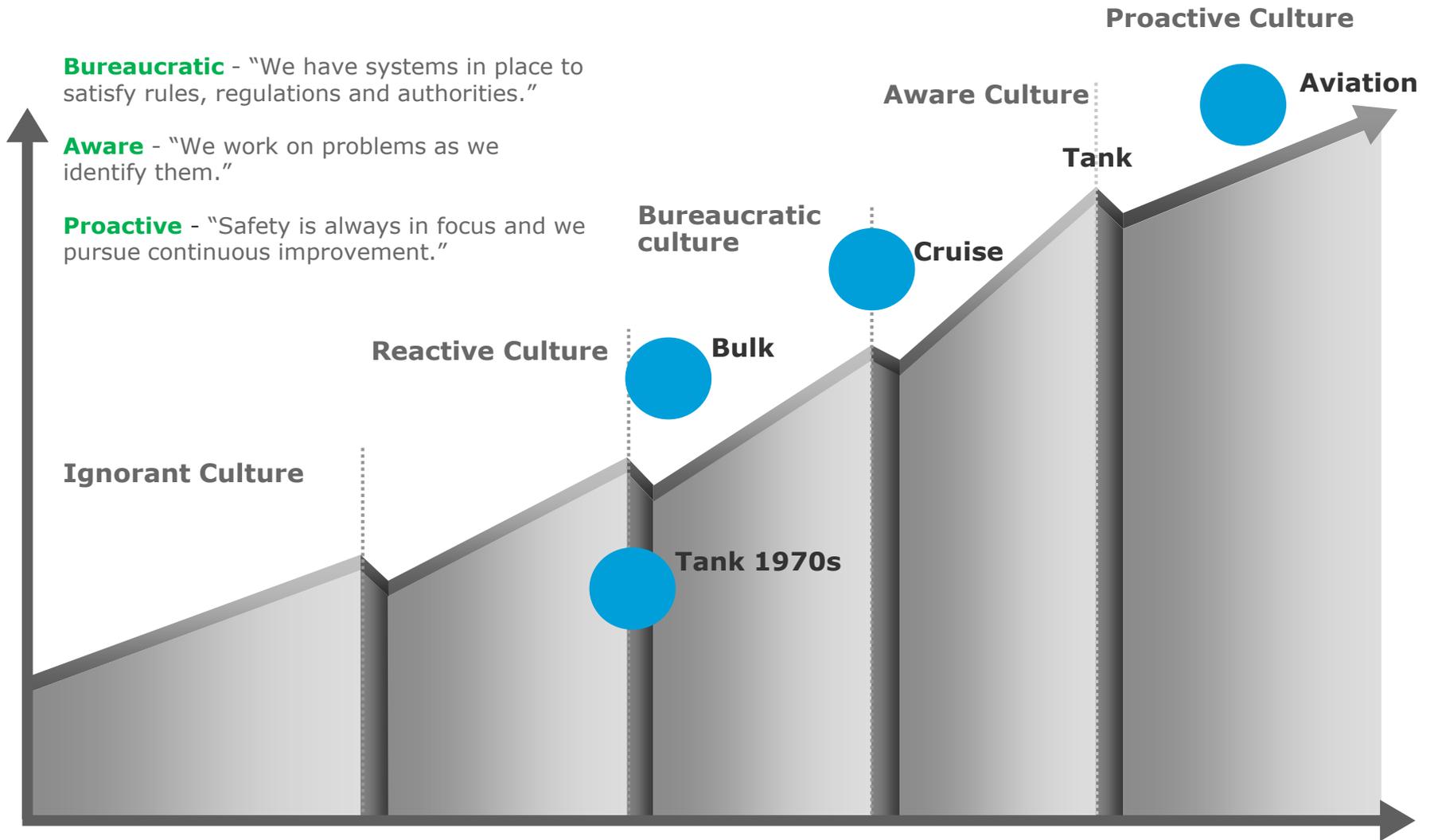
The safety level in shipping has changed little over the last 20 years

Serious accidents



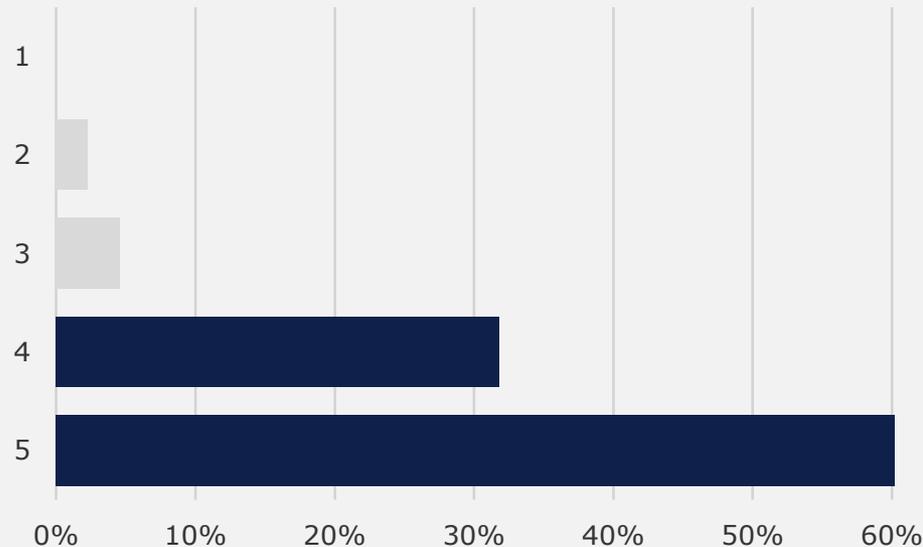
All cargo carrying ships (dry cargo/passenger, tankers and bulk carriers)

The maturity of a Safety Culture



Excellent safety performance is seen as a competitive advantage

To what extent is excellent safety performance a competitive advantage for your company?



90%

**Safety performance is important
also in a poor market**

What makes up Safety Culture

Safety Culture

The product of individual and group values, attitudes, perceptions, competencies and patterns of behaviour that can determine the commitment to, and the style and proficiency of an organisation's management of safety.



Safety Climate

'how people feel'

Individual and group values, attitudes and perceptions.

Behaviour

'what people do'

Safety-related actions and behaviours.

Organisation

'what the organisation has'

Policies, procedures and management systems.

Safety Culture maturity is reflected in responses to incidents

Application of initiatives

- The shipping industry most frequently applies initiatives **reactively** either:
 - either learning from **incidents** or
 - implementing good practices observed from **other industries**.
- Responses to incidents are in general:
 - **technical** or
 - **procedural**,
- Rarely do we address the **underlying human factors** (root cause of ~90% of incidents).

Learning

- **Learning is easily lost** if human fallibility is viewed as the 'cause' behind accidents.
 - This is an egregious, overly **simplistic** and naïve understanding of human factors.
 - Part of the problem is that, unlike other high risk industries, the maritime industry does **not value** human and behavioural sciences in the same manner as engineering sciences.
- **Human error** should instead be analysed as a **symptom of a malfunctioning system**.

Major accidents offer tremendous potential for learning from failures.



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