For sustainable healthcare systems: focus on robustness rather than optimization

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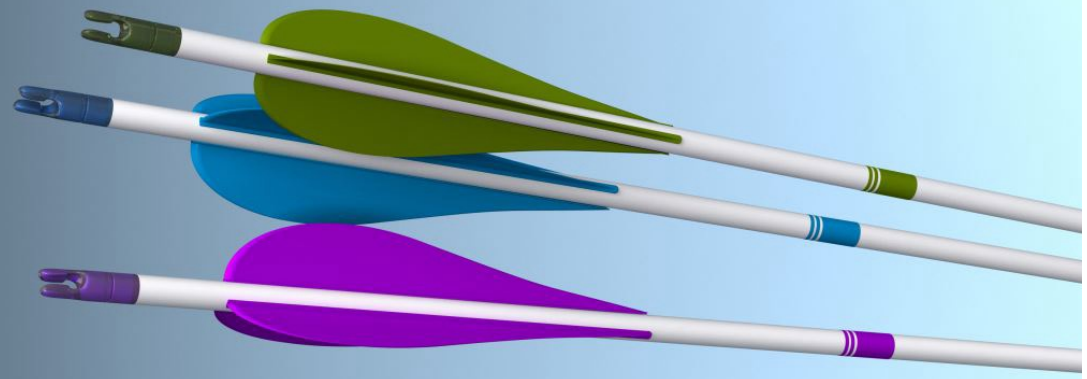
Performance & Efficiency

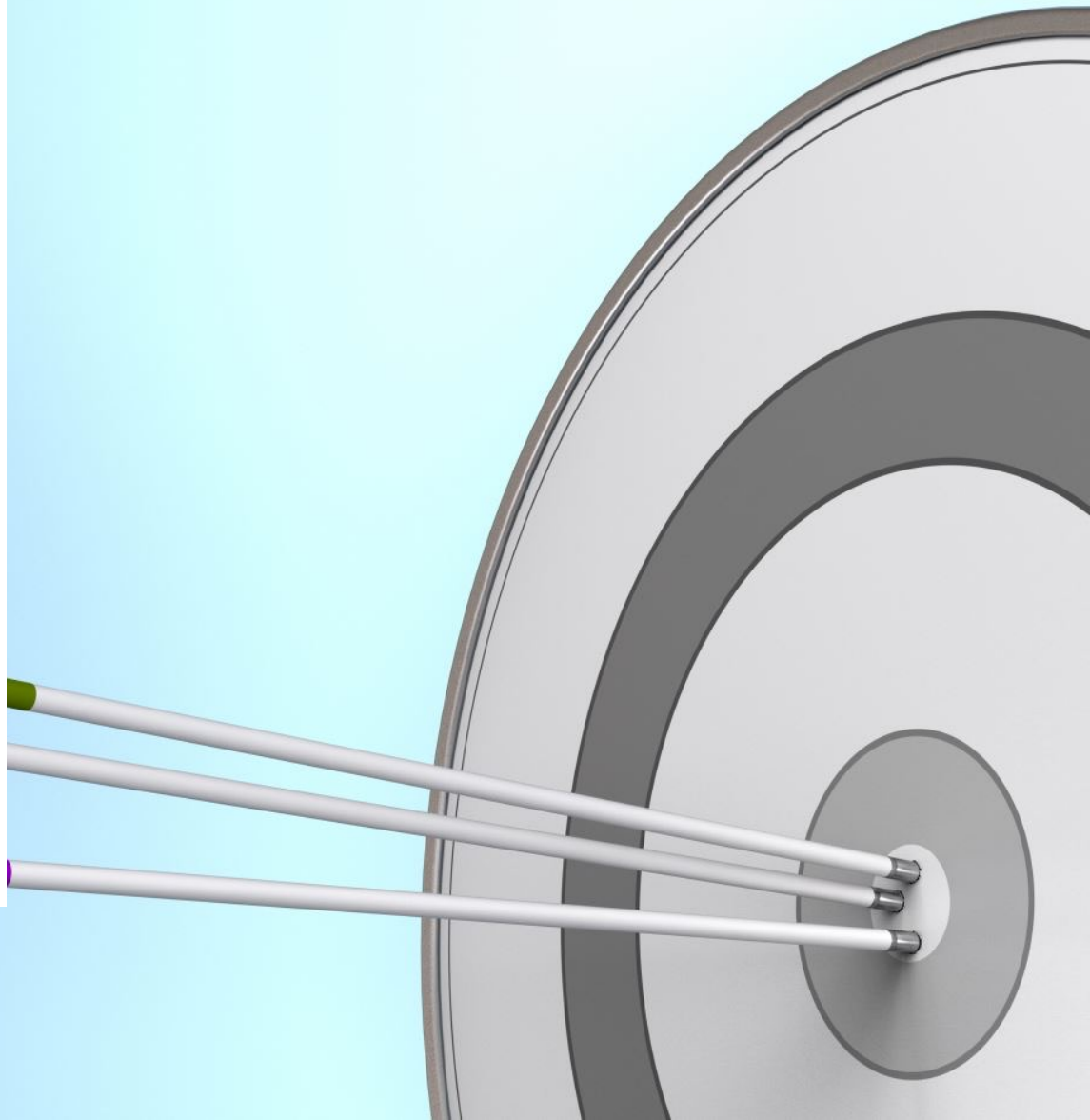


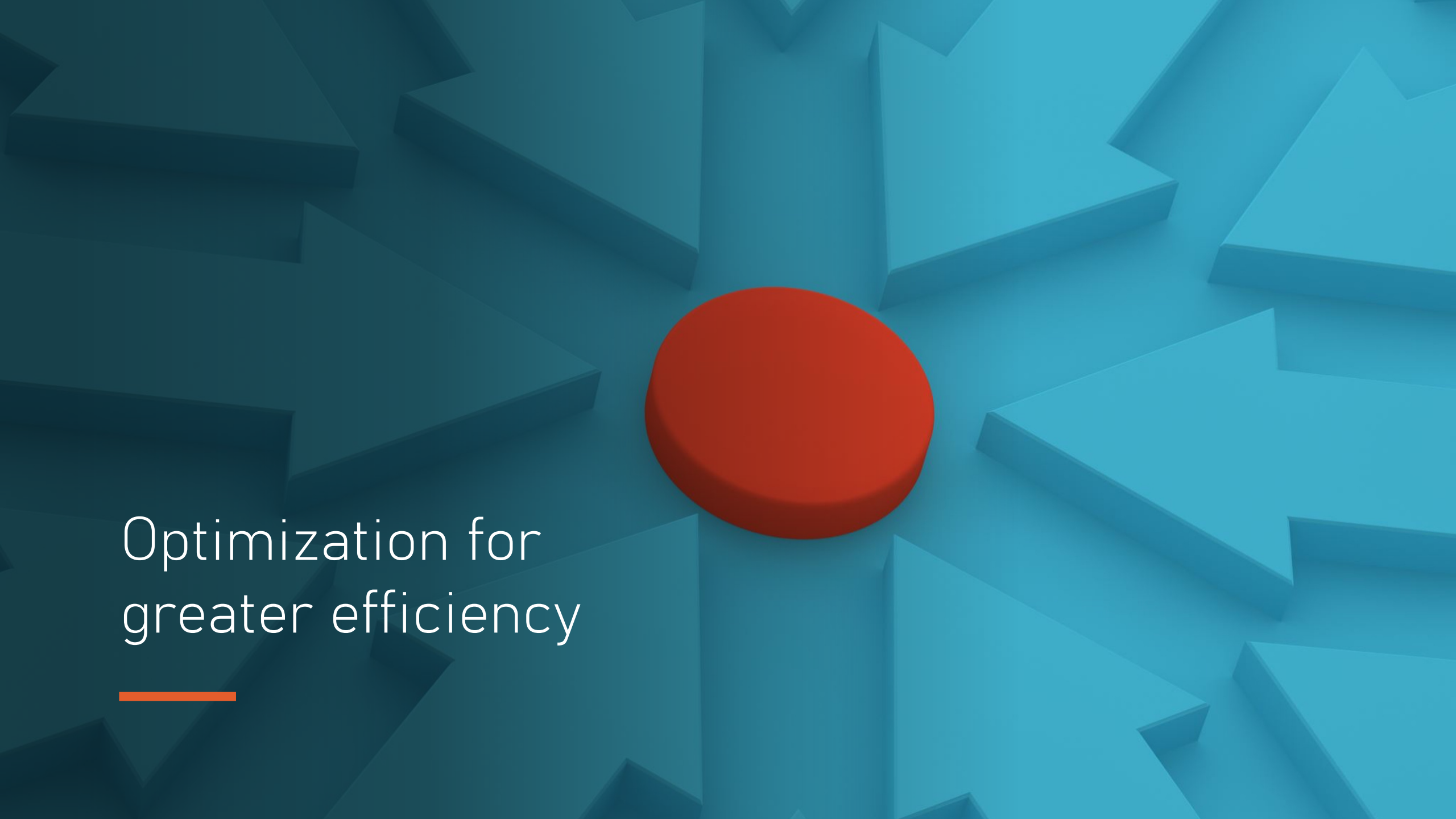
Performance & Efficiency

- Performance: achieving the best possible results with the same resources (WHO, 2000)
- Efficiency: ability of a machine, technique, person, or organization to deliver the "desired results with little or no waste (as of time or materials)" (Merriam-Webster, 2024)

Performance & Efficiency (2)

- Health System Performance Assessment Frameworks (Klassen et al., 2010)
- Efficiency : “the extent to which a hospital maximizes the volume of health care services delivered for the minimal amount of resources used” (CIHI, 2015)

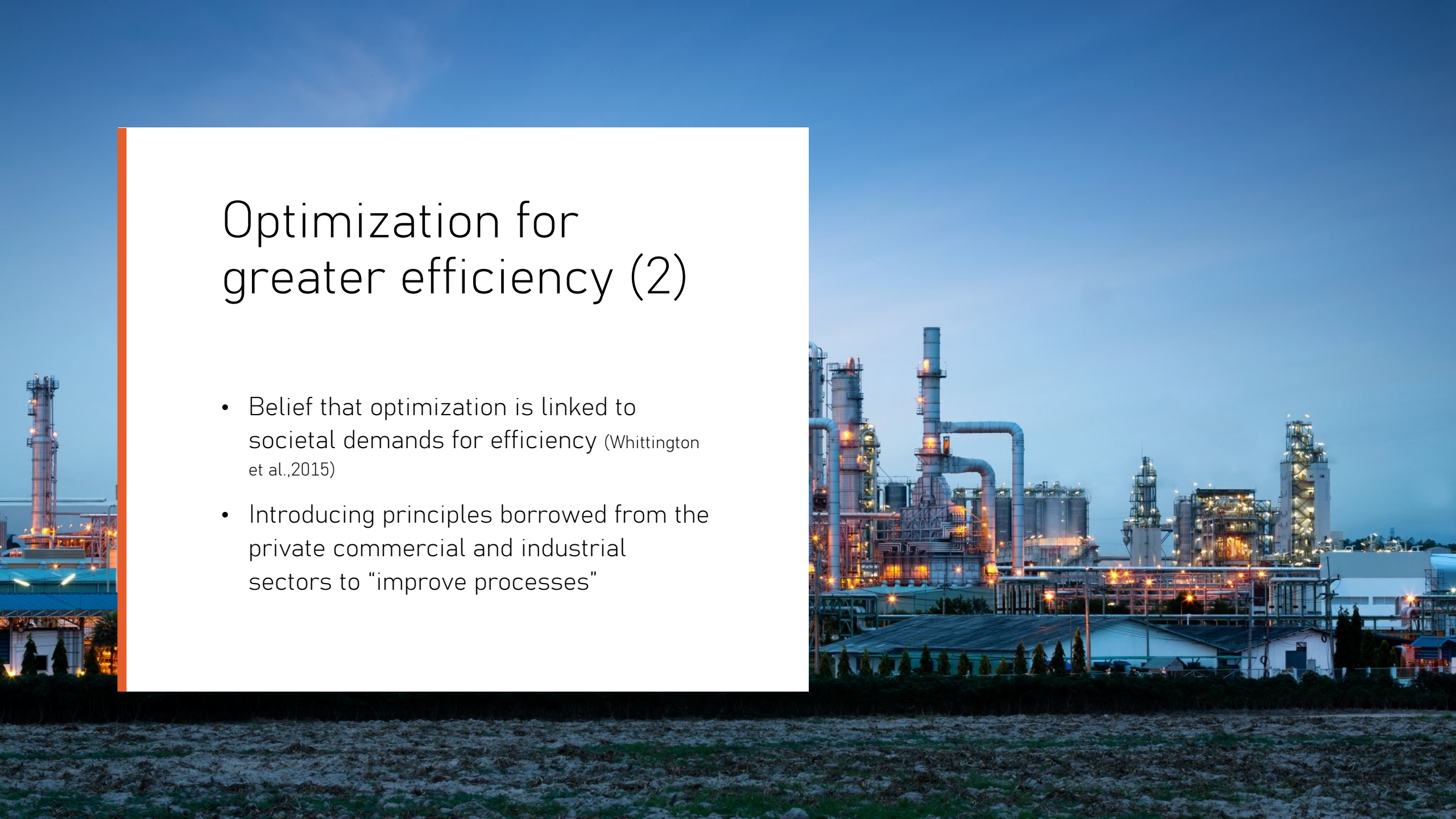




Optimization for greater efficiency

Optimization for greater efficiency

- Efficiency involves **optimizing care** and service production processes within the healthcare system (CIHI, 2013, 2015)
- "Triple aim" / Institute for Healthcare Improvement (IHI, 2008) :
  - improving individual care experience
  - enhancing population health
  - **reducing per capita healthcare costs**



Optimization for greater efficiency (2)

- Belief that optimization is linked to societal demands for efficiency (Whittington et al.,2015)
- Introducing principles borrowed from the private commercial and industrial sectors to “improve processes”

Optimization within healthcare institutions

Optimization within healthcare institutions

- Shorter hospital stays
- Undergo day surgery/hospitalization
- Delivering care within shorter timeframes
- Reducing perceived need for hospital beds and the required staff when nursing positions are calculated based on the number of physical beds

Consequences of optimization on human beings and the environment

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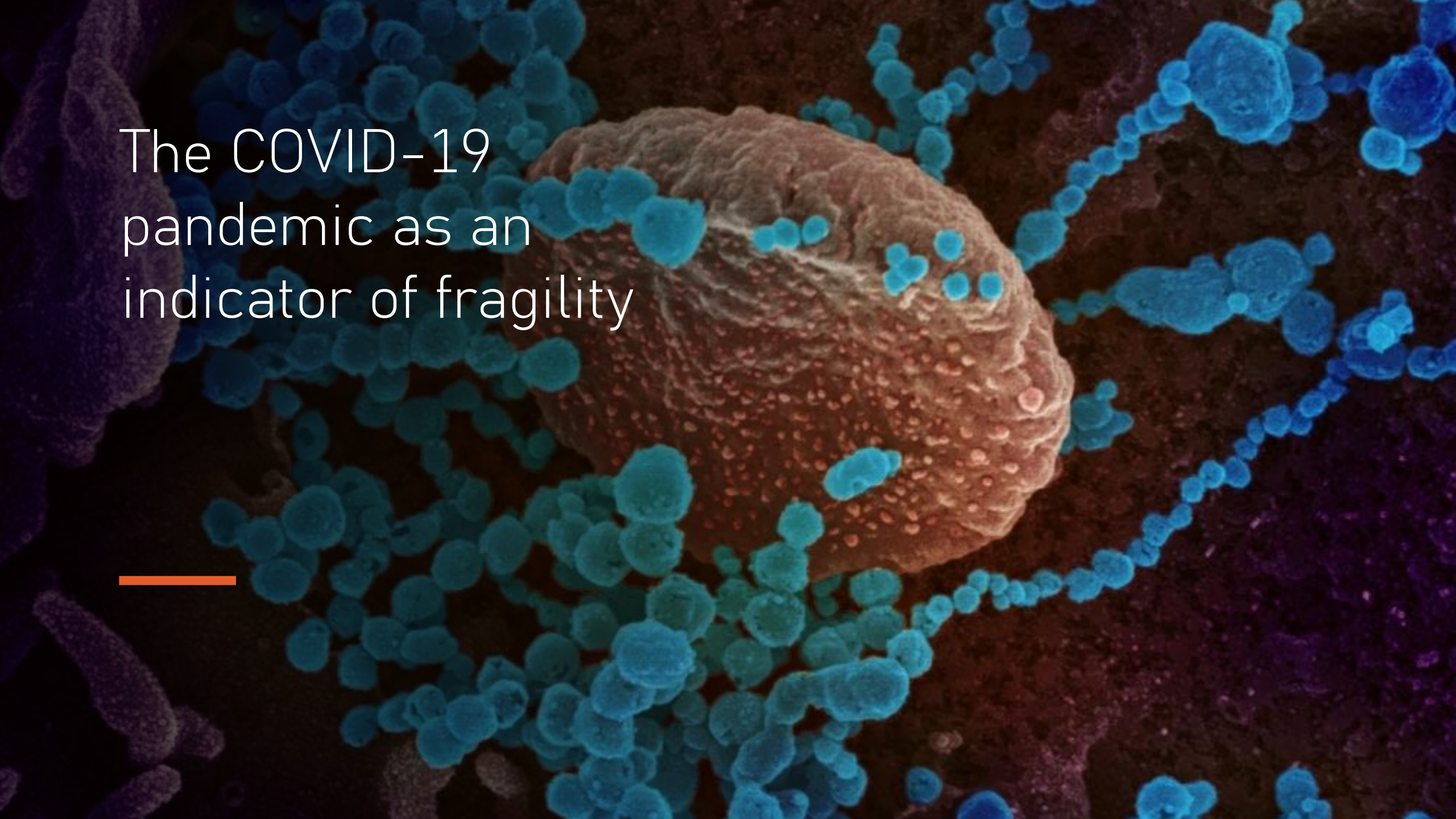
- In a political environment where ultra-liberal discourse dominates, solutions that align with the ideological foundations of the system are favored (Foth et al., 2017)
- Scientific literature demonstrates that current management and organizational practices stemming from the logic of optimization lead to human suffering in our healthcare organizations (Meredith et al., 2002; Dall et al., 2020)

Consequences of optimization on human beings and the environment (2)

- increasing the intensity of nursing work
- contributing to professional burnout
- compromising patient safety



The COVID-19 pandemic as an indicator of fragility

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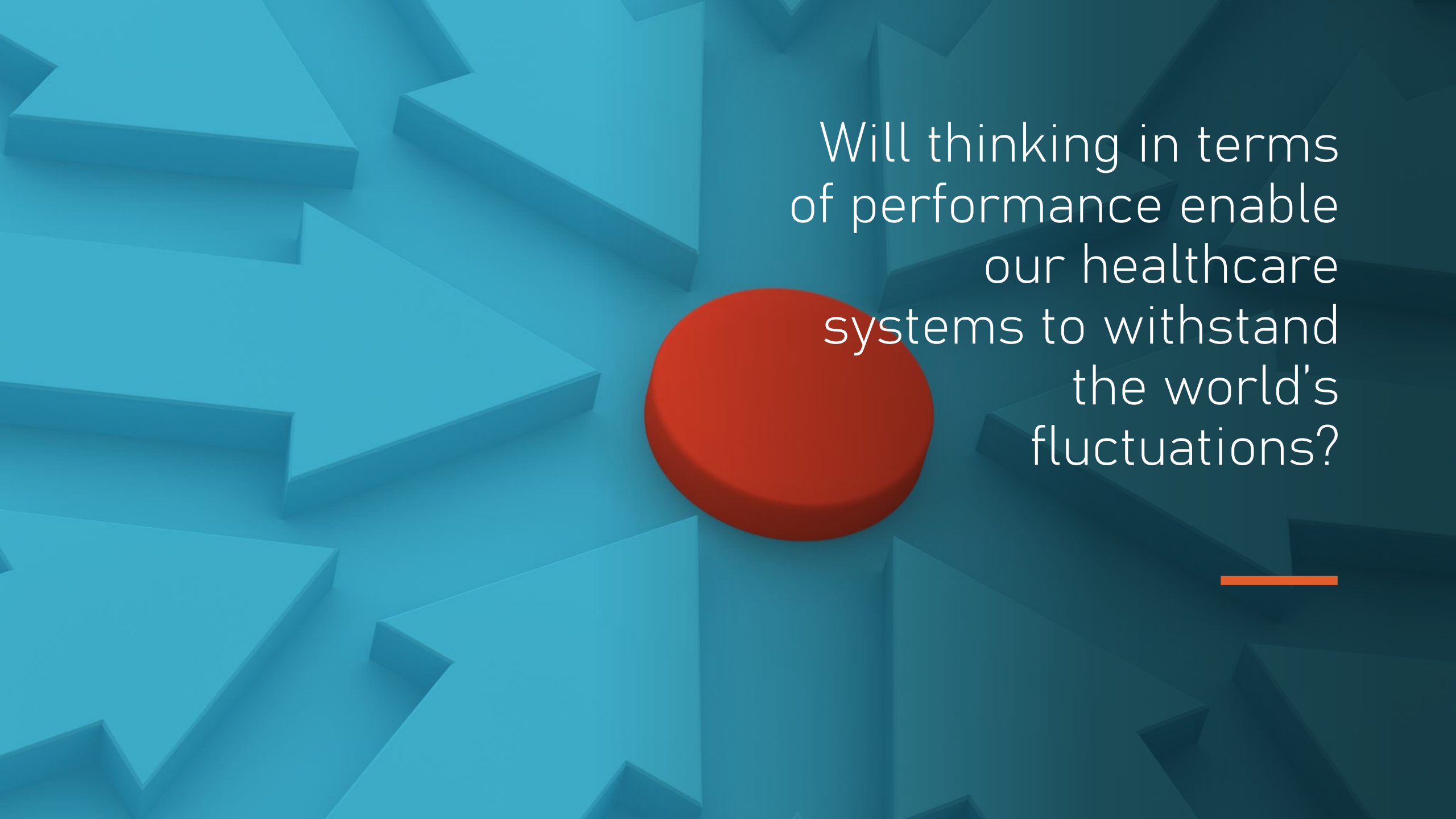
- Systemic challenge (Rizzo et al., 2023)
- Many others
  - changes in our ecosystems related to climate change
  - biodiversity collapse
  - social and political instability


Will thinking in terms of performance enable our healthcare systems to withstand the world's fluctuations?

Dr Olivier Hamant

(Hamant, 2022)

LIFE SCIENCES

Resisting the Fluctuations of the World

- profound reflection on living beings' resilience and capacity for adaptation
- three interconnected capacities: **robustness**, adaptability, and transformability
- robustness : the property of a system "**to establish a new equilibrium in the presence of internal or external fluctuations**" (Hamant, 2022)

Robustness
(Hamant, 2022)

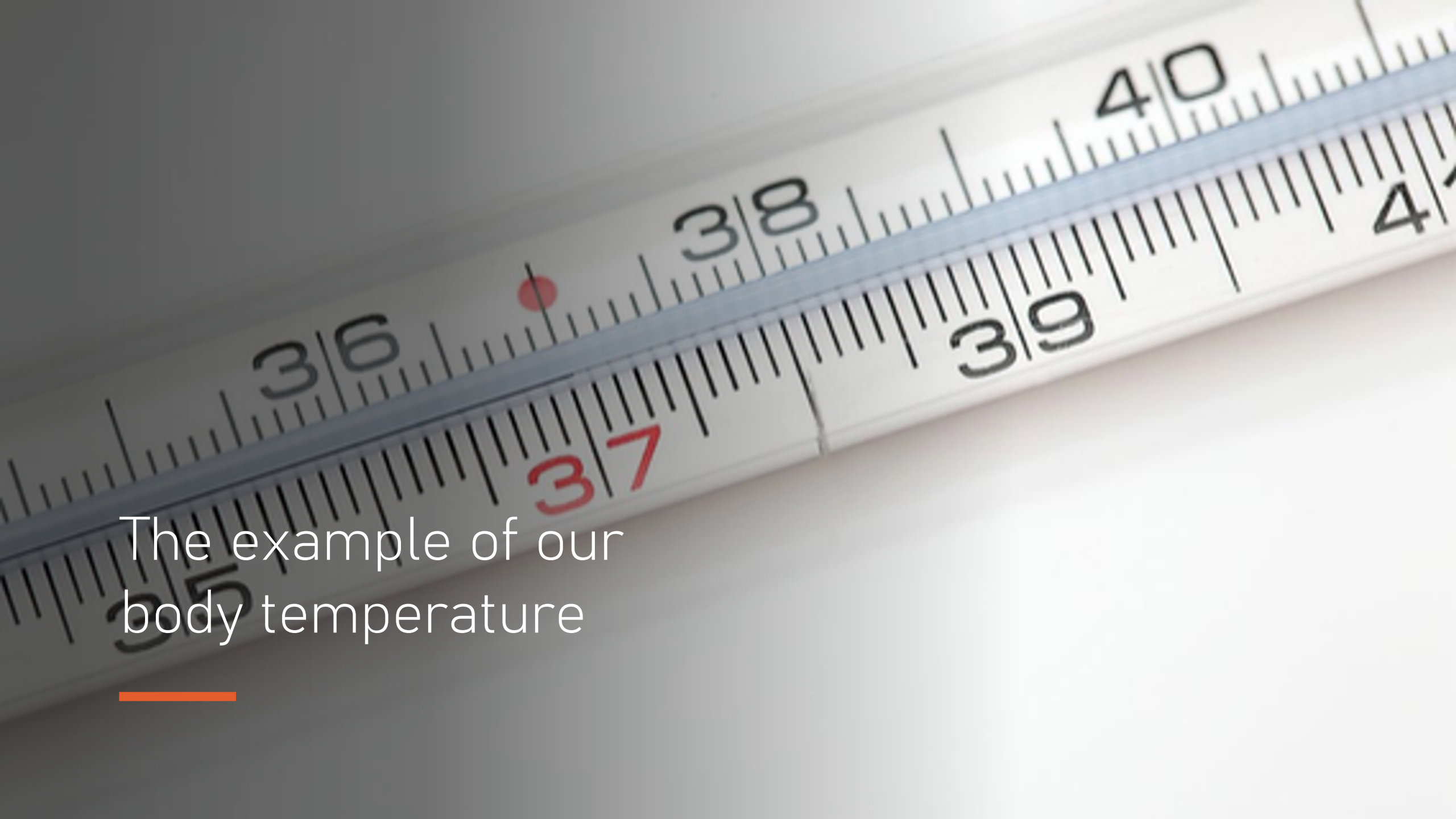
- Redundancies
- Inconsistencies
- Variations
- Incompleteness
- Apparent wastage
- Slowness
- Variable durations
- Heterogeneity

A robust organism functions sub-optimally, accepting that some things may not be efficient. This allows it to rely on internal resources for autonomous functioning, maintaining short-term stability and evolving over the long term.

Sub-Optimality for Viability

Viability (Hamant, 2022)

- Viability identifies at least one evolution within a dynamic system subject to a set of fluctuating constraints **in which all the constraints necessary for life to exist are satisfied over the long term**.
- This state is called the **viability kernel**.
- If **no evolution** is viable, the viability kernel is considered **empty**.
- According to Hamant, biology clearly indicates that **aiming for a single optimum can only lead us into a situation of non-viability**, as it makes us unable to cope with system fluctuations.

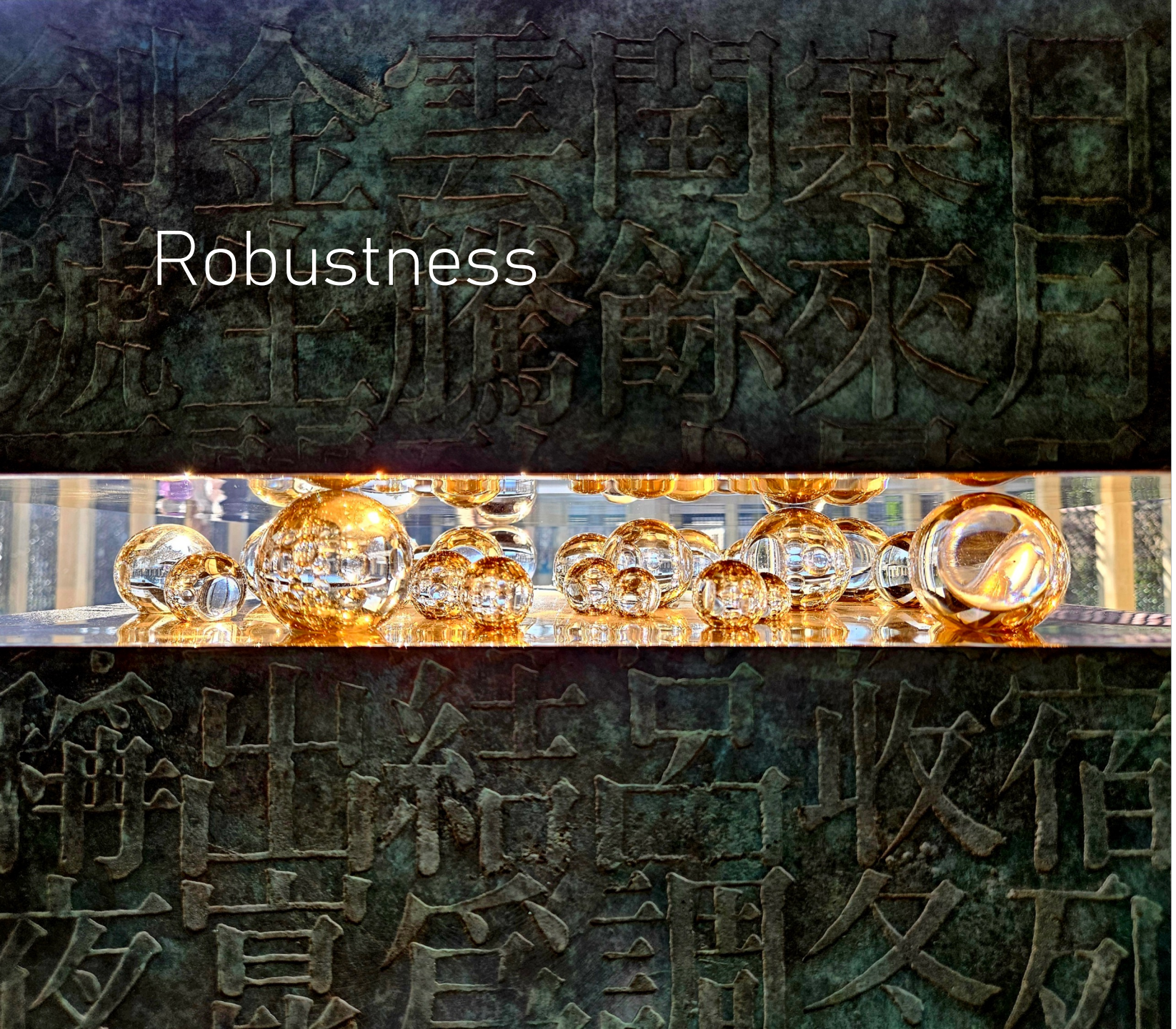


The example of our body temperature

Rethinking Organizations

- State of non-viability
- Dehumanization = symptom of a non-living organization

Robustness



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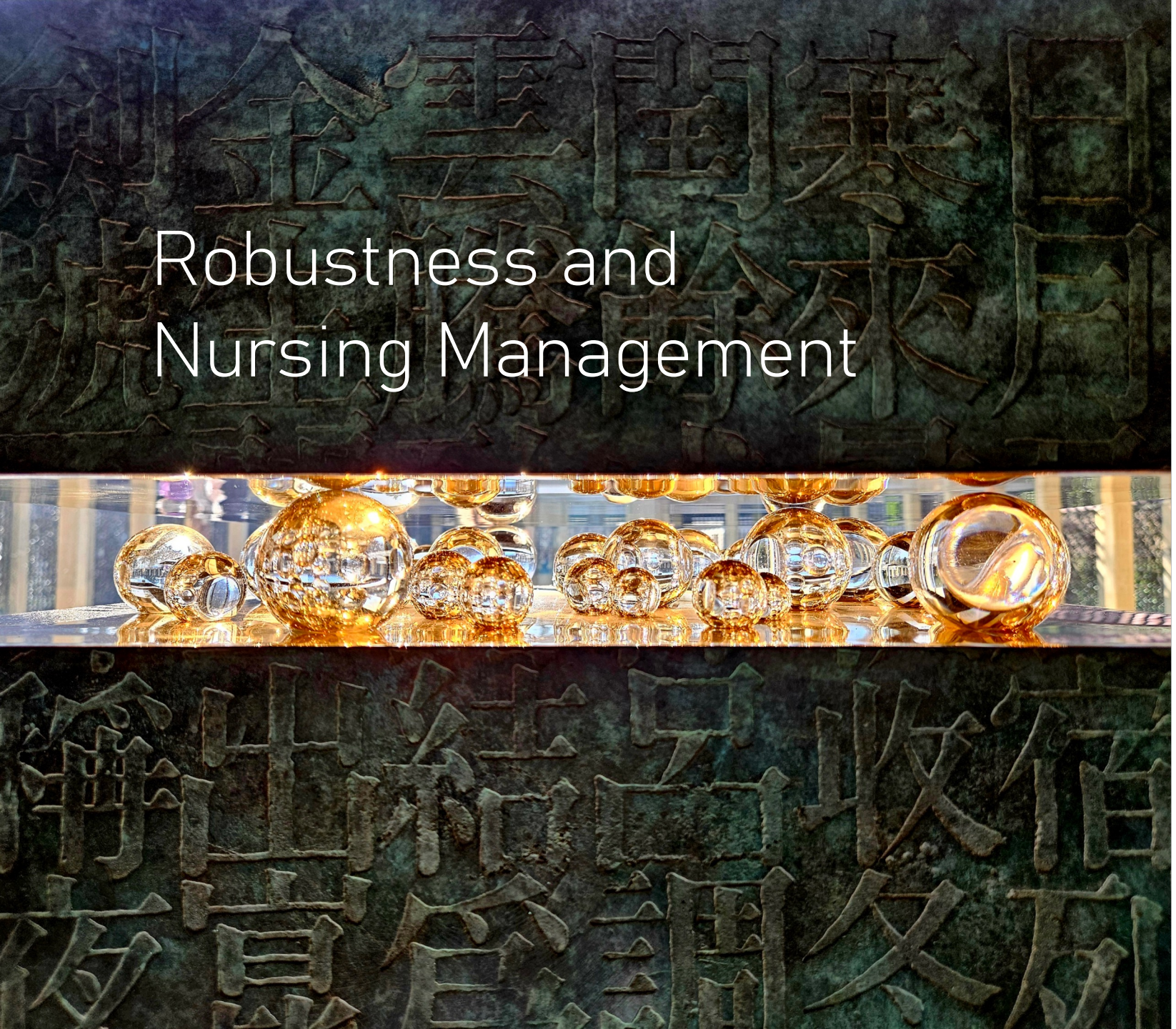

Robustness and Nursing Management

- Redundancies
- Inconsistencies
- Variations
- Incompleteness
- Apparent wastage
- Slowness
- Variable durations
- Heterogeneity

Redundancies for autonomy

- Multiple check on blood bags and patient identity before transfusion
- Backup generators that can take over in case of a power outage from the grid

- Nursing management : **normalizing the fact that colleagues are sometimes on standby**, akin to firefighters awaiting a fire alert

Apparent Waste for adaptability

- Shortage of protective masks / COVID-19
- Catastrophic floods / No more civil protection services

- Nursing management : **Establishing stocks**, contrary to the practices of Lean Management enthusiasts

Moving Away from Non-Living Organizations

Moving Away from Non-Living Organizations (Hamant, 2022)

- Robustness
- Circularity
- Importance of the collective

Favoring suboptimal organizations for greater robustness

- **Adopting robustness for adaptability** of our healthcare systems
- **Fighting against fascination** of academic circles / management principles (Lakeman et Molly, 2018)
- Swift initiatives are necessary at the **sociopolitical level**, including in the healthcare sector, **to prioritize only robust projects** from now on
- **Urgent action**: robustness can only be built when there are **margins of maneuver** that allow for it, as it requires time and financial investments

Thank You

Kim Tschang-Yeul, 2007: Recurrence
(Photo credit Dan Lecocq ©)