

LINCOLN - DO NOT CRACK...

INTRICACIES OF ROOT CAUSE ANALYSIS

Damian Baldysz

What is the most frequently asked question during production meetings or monthly reviews?

W H Y ???

And what are the answers?

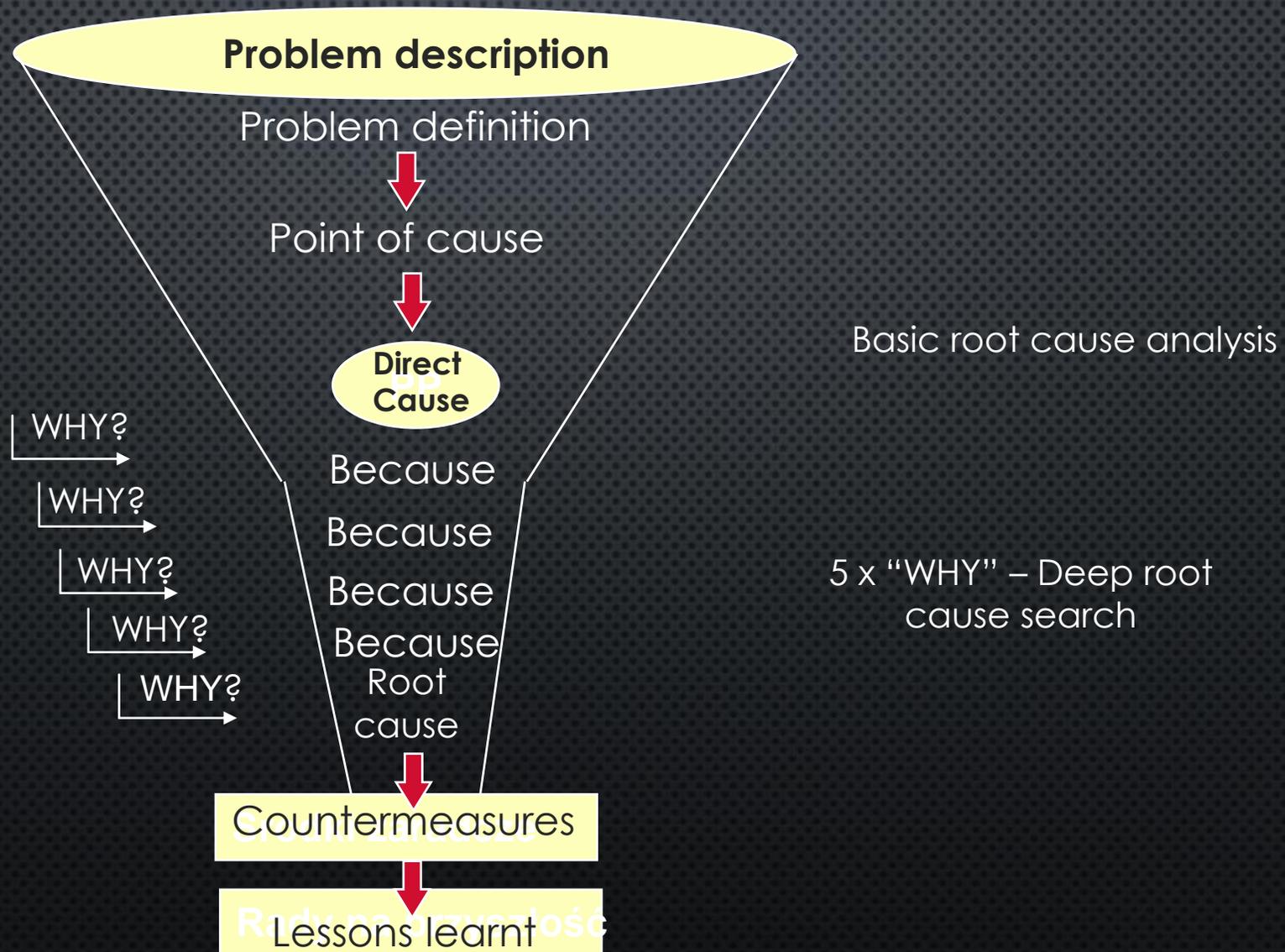
There is a whole variety of them depending on expectations of the Superiors. However surprisingly often the expectation is very simple...

SEEK AND DESTROY !!!

Root cause analysis steps

Problem recognition

Root cause analysis



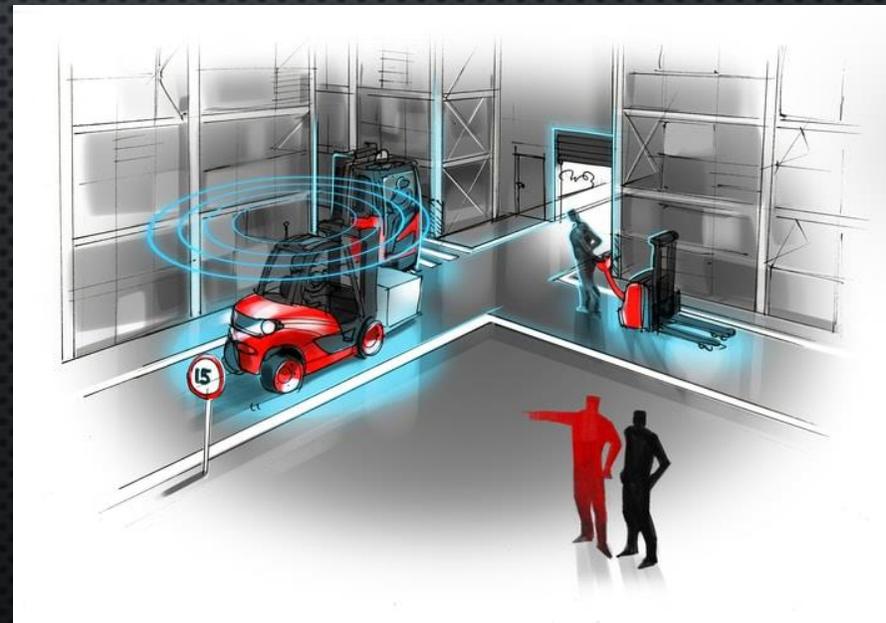
You will solve a problem... as you name it

„Too low temperature of the heaters” – Maintenance
Tai Chi – case study



„He’s a drunkard. And a thief. Because every drunkard is a thief” – problem definition with a thesis and its consequences

Operator’s carelessness – and everything is clear– MH case study



Shortcuts – irresistible temptation of time saving

- Heuristics does not always 'save life'
- Neocortex – how to switch on the indispensable manager's function
- Leader or General – when time DOES matter?

SO...LINCOLN DO
NOT CRACK

Problem description

Marble surface of Lincoln Memorial was deteriorating at a significantly higher speed than other monuments in the neighbourhood. Plans were either to renew the surface more frequently or substitute it with a brand new monument.



1. **WHY** *is the monument deteriorating?*

Answer: Because harsh chemicals are frequently used to clean the monument



2. **WHY** *Why are harsh chemicals needed?*

Answer: To clean off the large number of bird droppings on the monument



3. **WHY** are there a large number of bird droppings on the monument?

Answer: Because the large population of spiders in and around the monument are a food source to the local birds



4. **WHY** is there a large population of spiders in and around the monument?

Answer: Because vast swarms of insects, on which the spiders feed, are drawn to the monument at dusk



5. **WHY** *Why are swarms of insects drawn to the monument at dusk?*

Answer : Because the lighting of the monument in the evening attracts the local insects



Problem to be solved:

How to get rid of insects – the primary food source of the Lincoln Memorial's 'tenants' food chain?

Solution: Change how the monument is illuminated in the evening to prevent attraction of swarming insects

“The basis of Toyota's scientific approach . . . by repeating why **five** times, the nature of the problem as well as its solution becomes clear.”

Taichi Ohno

Thank you for your attention