



27th annual **INCOSE**
international symposium

Adelaide, Australia

July 15 - 20, 2017



Systems Engineering To Go

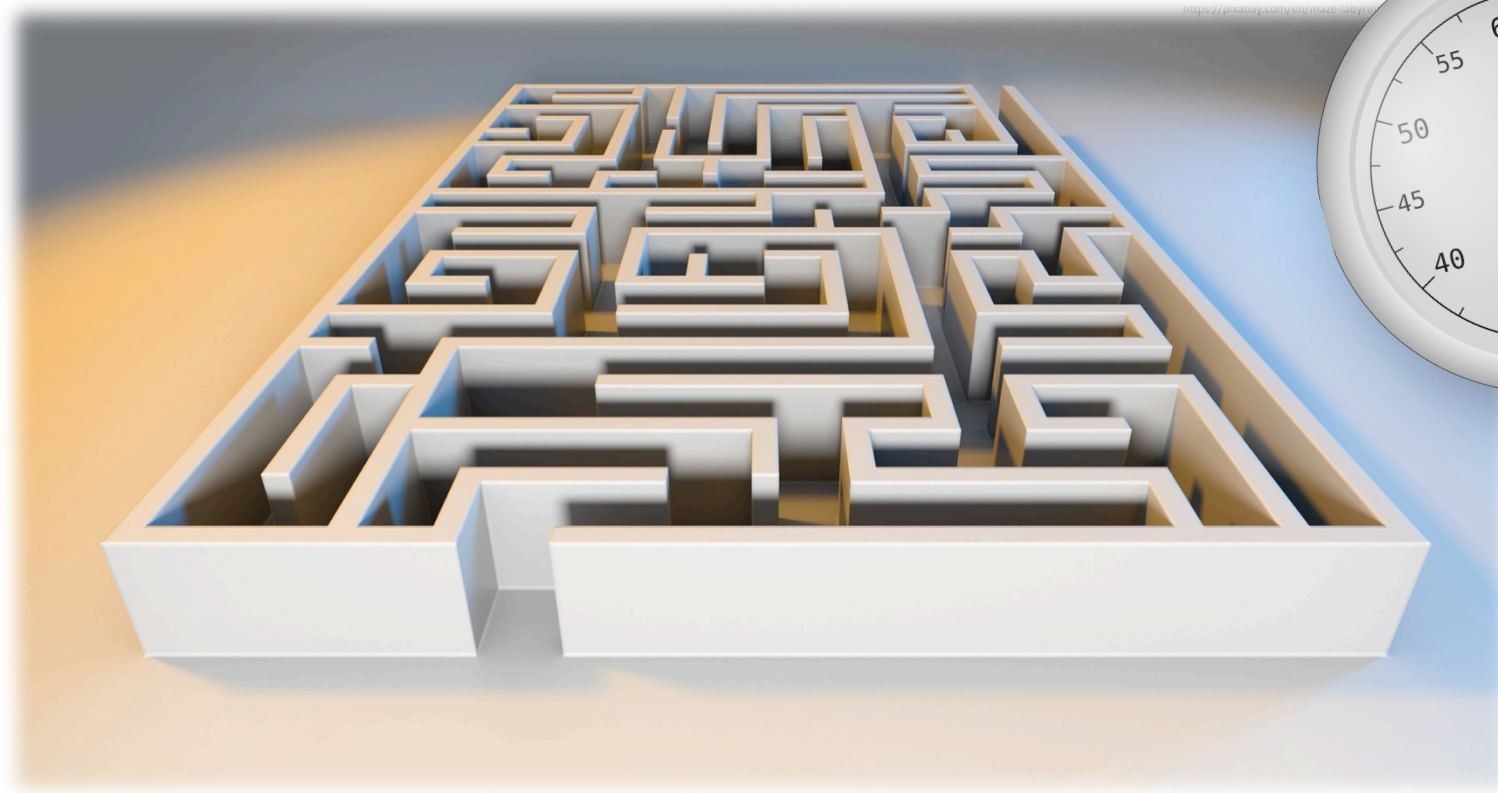
Breaking Out

www.incose.org/symp2017

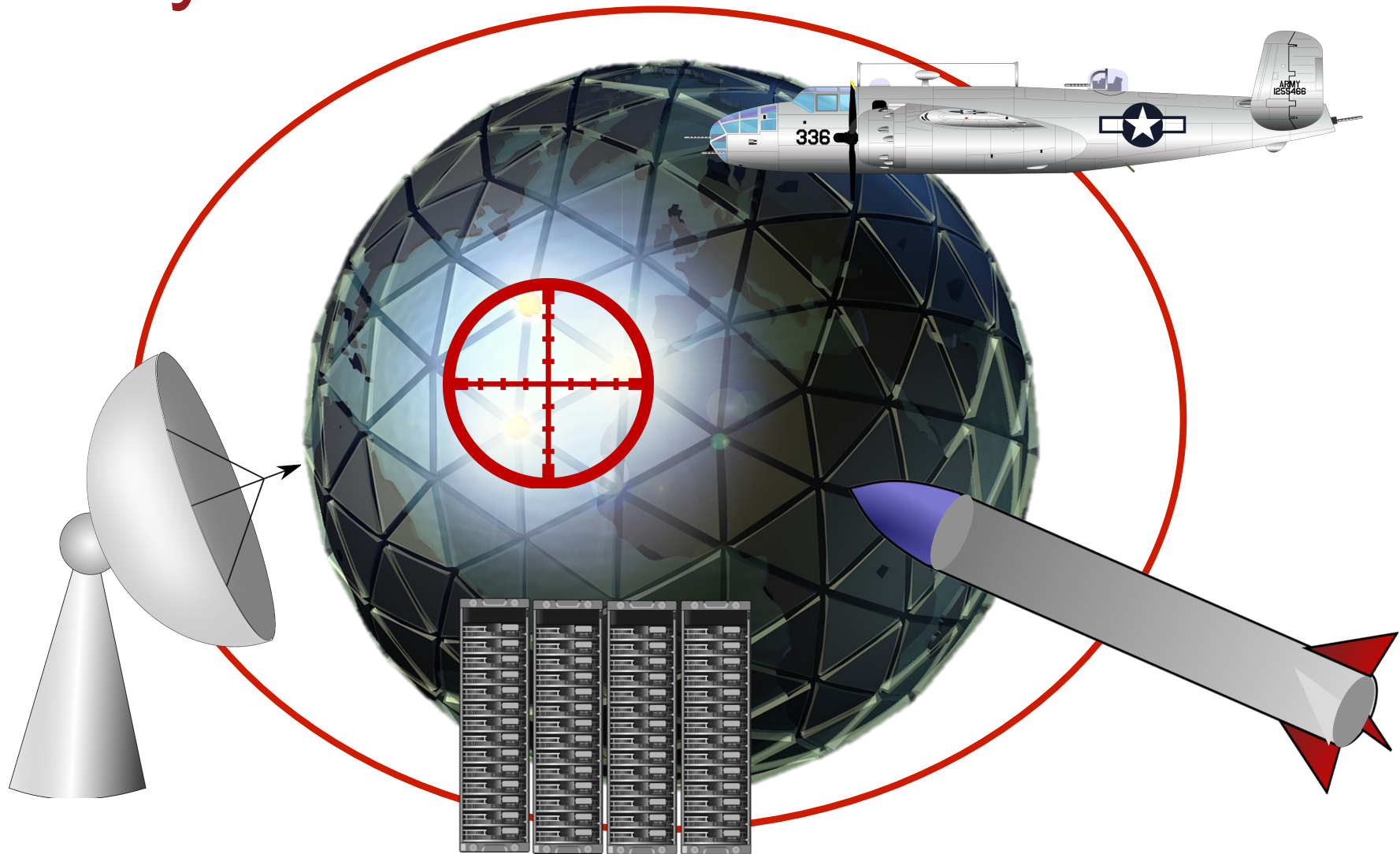


Historical background

Drivers = complexity + speed



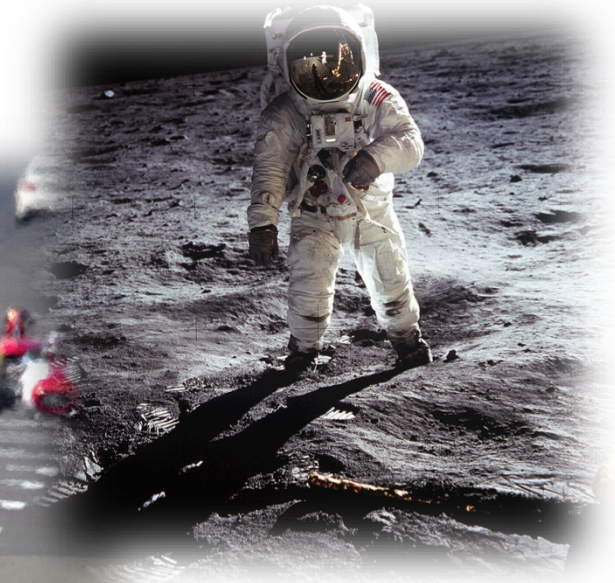
Complexity



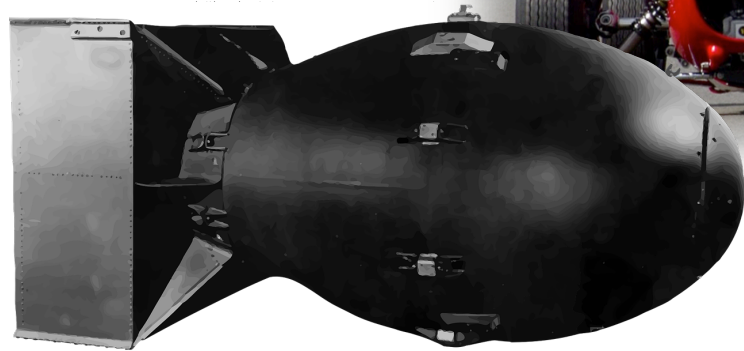
Pace-Race



SPACE

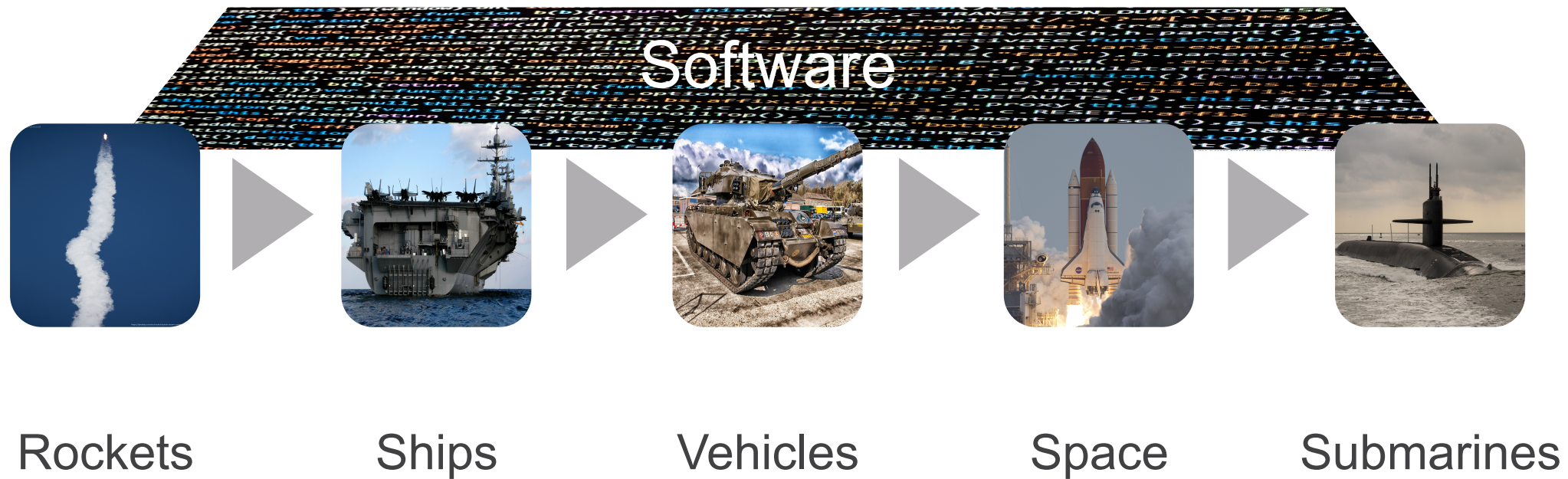


ARMS





Application-based transfer

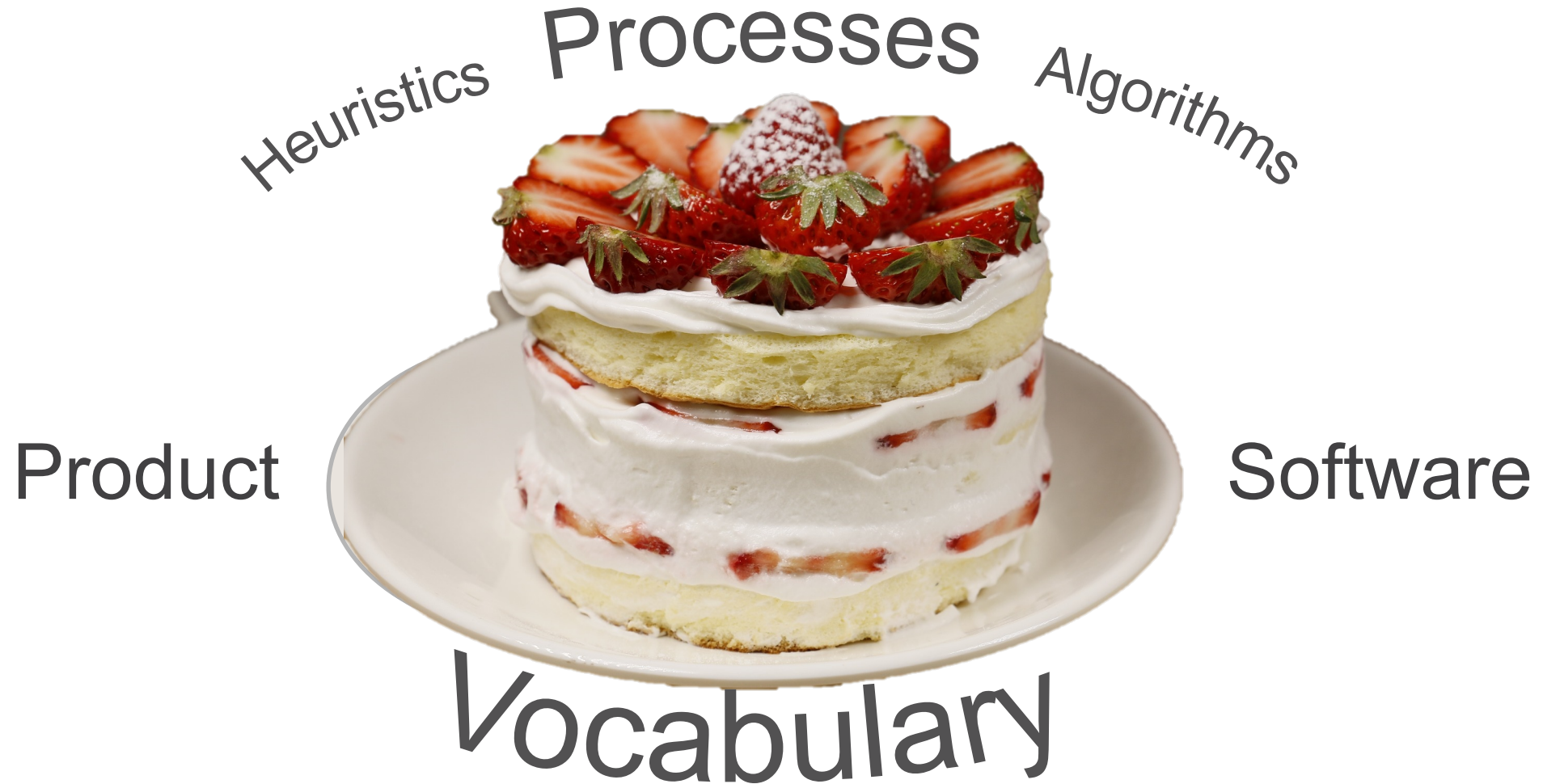




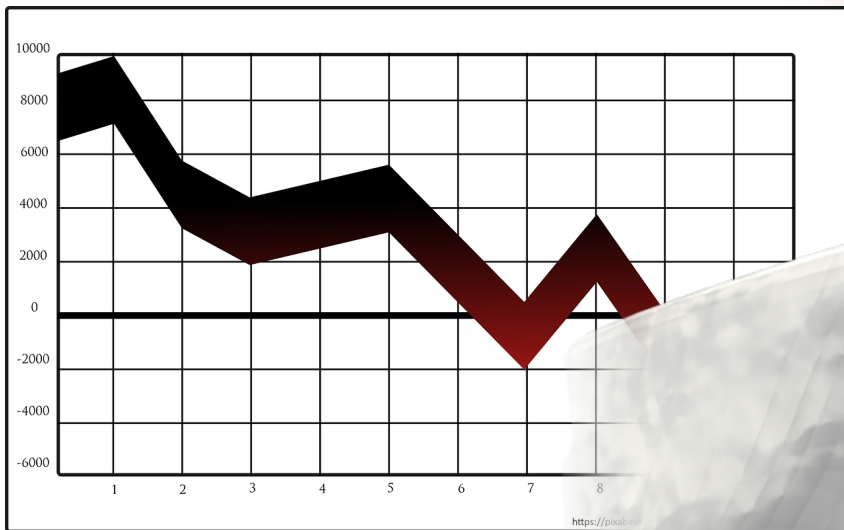
Issues and Problems



Baked-in

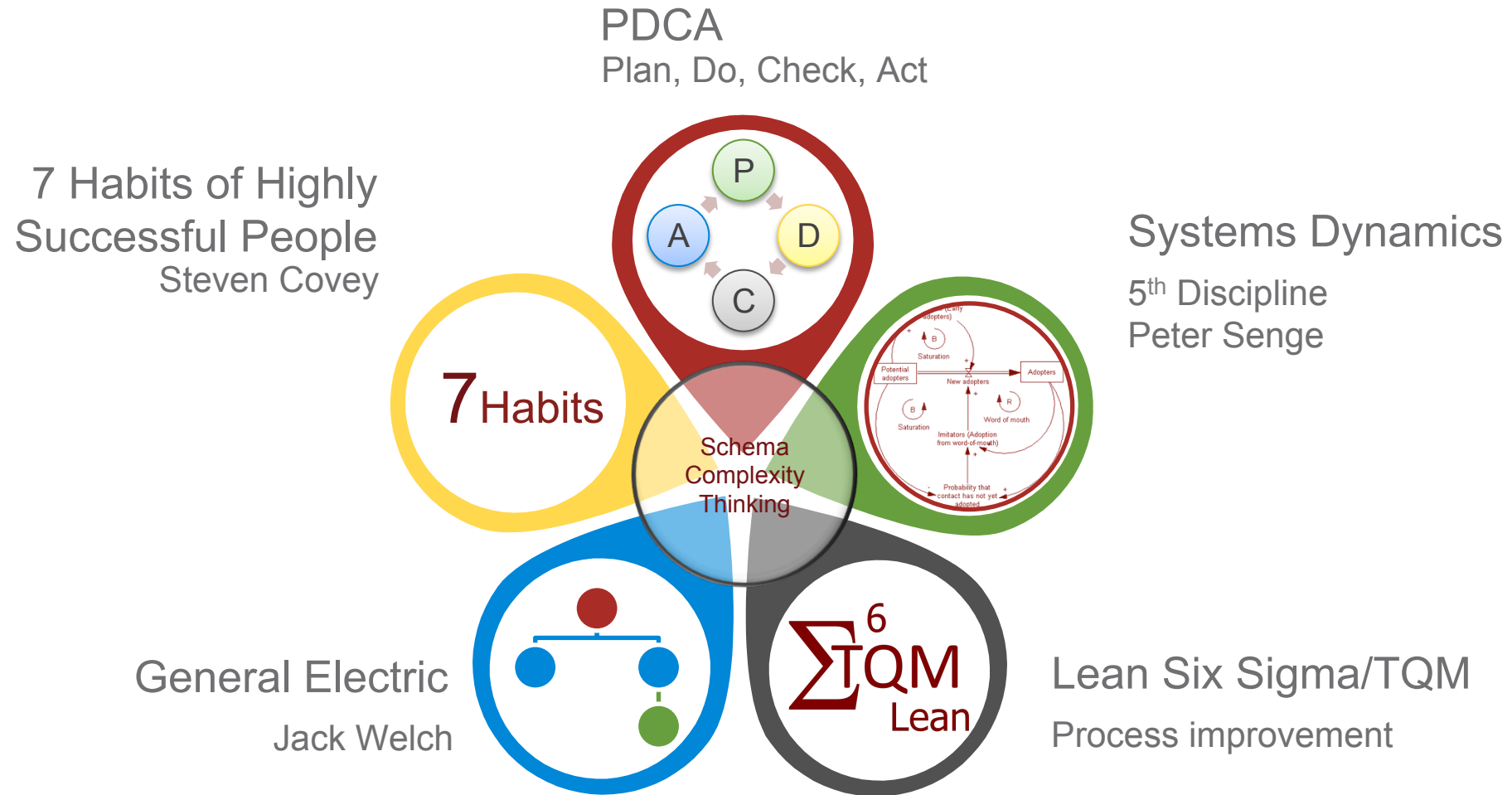


Expansion





Concepts Map To:



Impediment

The background of the slide is a close-up photograph of a stone wall. The wall is constructed from irregularly shaped stones in various shades of brown, tan, and grey, with some reddish-brown stones interspersed. The stones are set in a thick, light-colored mortar.

Language/Vocabulary



Path Forward



Path Forward- Step 1

Reproductive Thinking



Incremental



Path Forward- Step 2

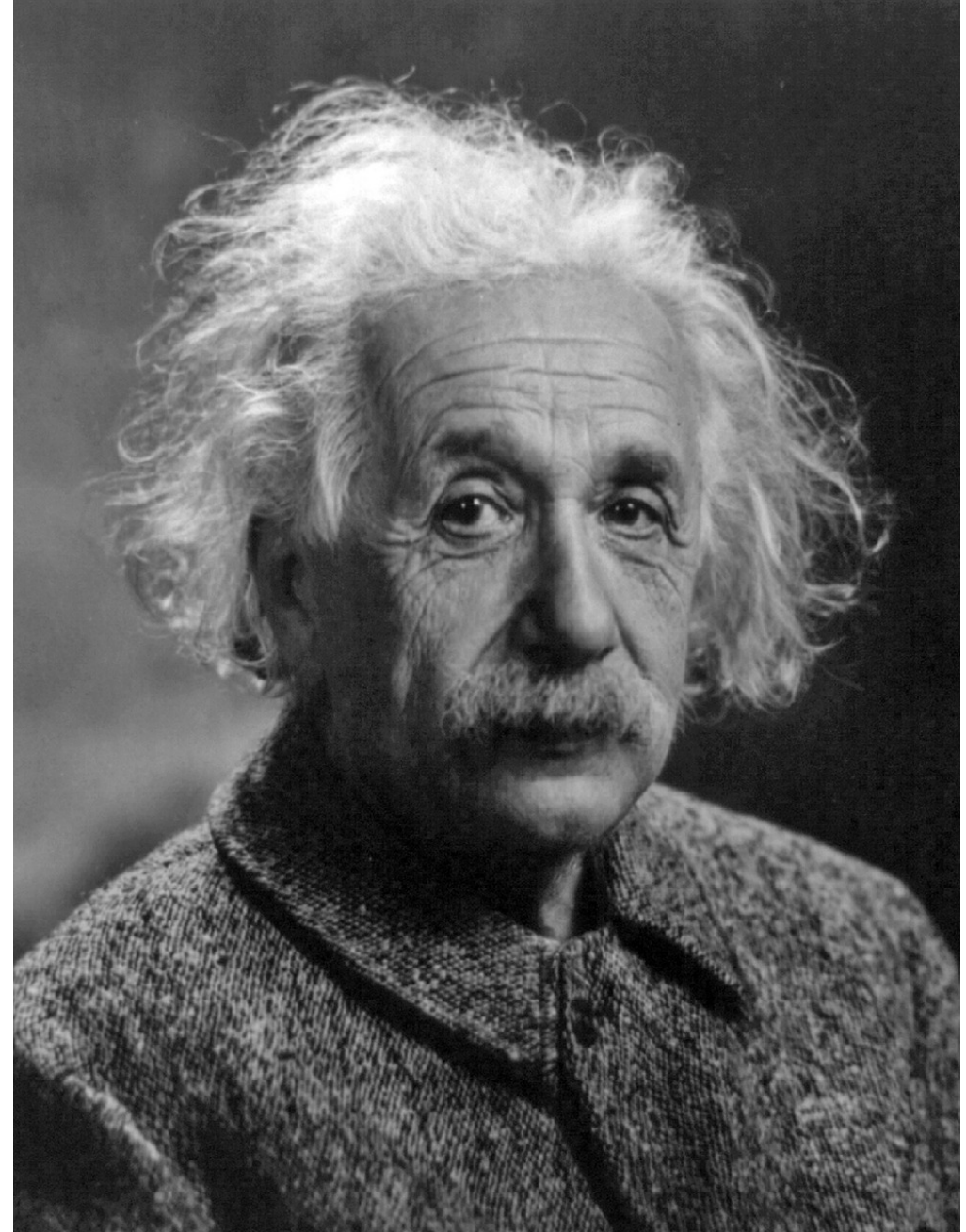
Productive Thinking



<https://pixabay.com/en/backpacking-traveller-man-146573/>

Combinatorial Play

“The first [principle is] that an idea is nothing more nor less than a new combination of old elements.” (Vilfredo Pareto, 1935)





James Webb Young

Five Steps for generating ideas:

1. Gather material
2. Digest material
3. Process unconsciously
4. Ah-Ha moment of insight
5. Tailor the idea to reality



Curiosity



Warning!

- “But you didn’t offer examples of other areas”
- On purpose!
 - Encourages reproductive thinking
 - Plenty of examples (e.g.- *A World In Motion*)



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Breaking Out: Systems Engineering To Go

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Paper by Zane Scott, Vitech Corporation

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