

Bounding Wicked Problems: The C2 of Military Planning

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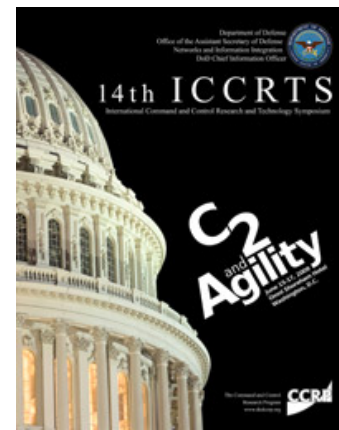
DSTO Australia

Presented by Anthony Dekker



Australian Government

Department of Defence
Defence Science and
Technology Organisation





Overview of this talk



Context



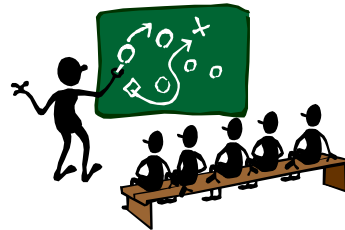
Background Concepts



Process Adaptability



Organisational Adaptability



Discussion



Context



“Even as its military hones and institutionalizes new and unconventional skills, the United States still has to contend with the security challenges posed by the military forces of other countries.”

– SECDEF Robert M. Gates, “A Balanced Strategy,” *Foreign Affairs*, Jan 2009



How can a military headquarters agilely respond to a spectrum of contingencies: from Whole-of-Government operations to State-on-State warfare?



Background Concepts





Pigeau-McCann C2



- **Command:** human will and creativity
- **Control:** structures and processes
- **C2:** establishing Common Intent to achieve coordinated action

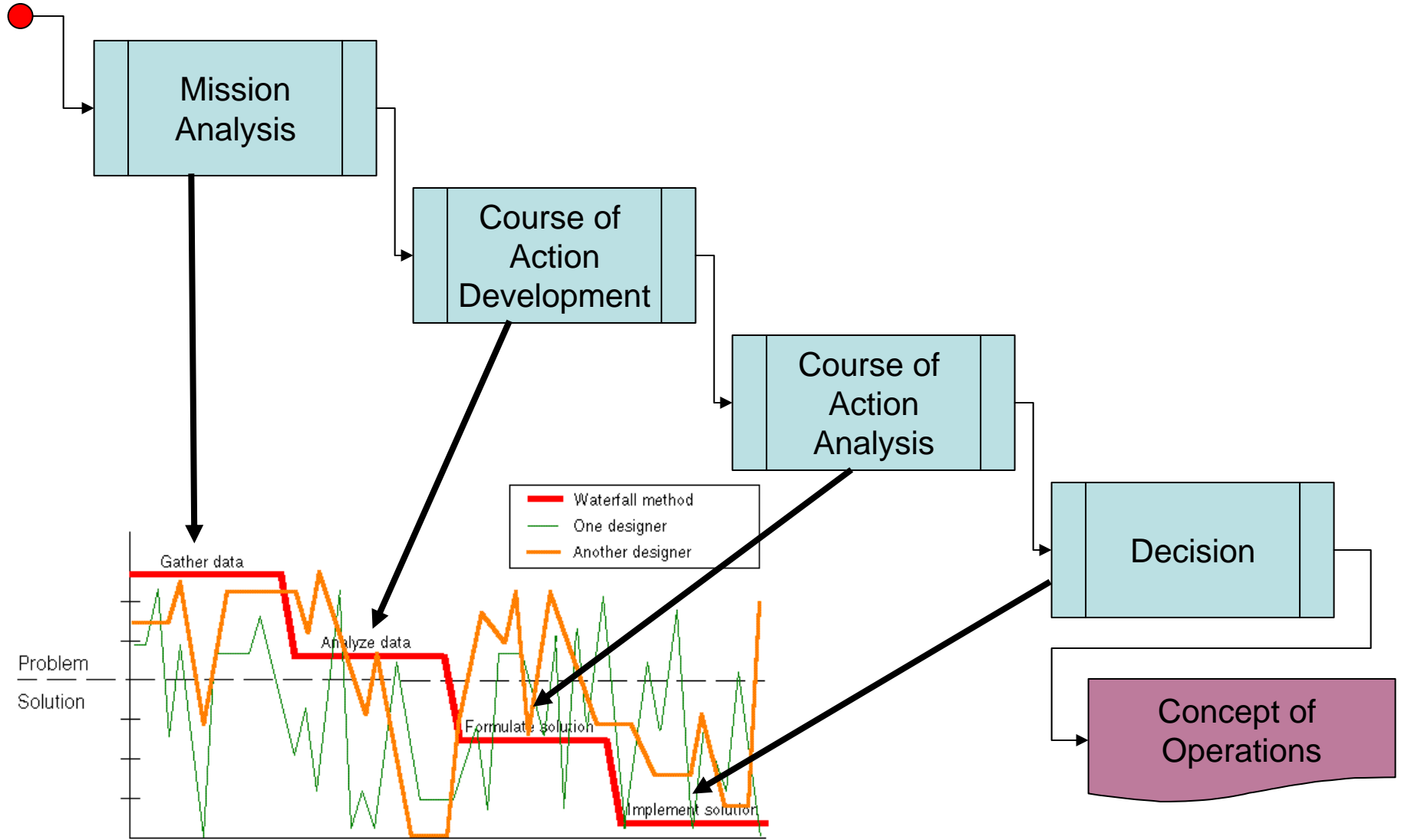
- Explicit Intent vs **Implicit Intent**
- Explicit control vs **spontaneous emergent behaviour**

- Creative
⇒
Command
- Commander: Bounds Solution Space
 - Subordinates: converge to innovative solutions within space

This is planning!



Linearity and Planning Processes





Wicked Problems (Rittel & Weber, Conklin)



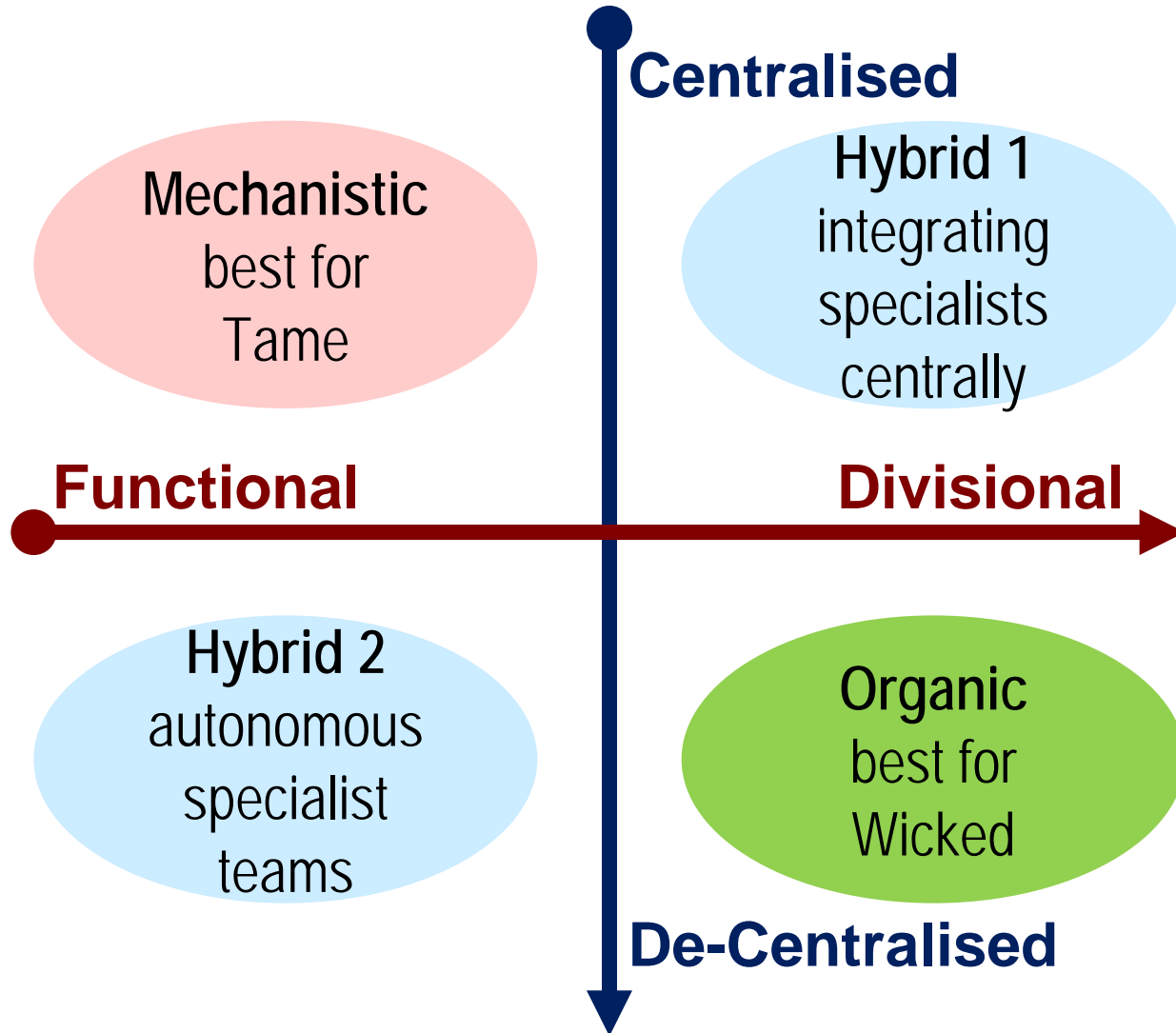
- Development of candidate solutions reveals further aspects of the problem
- No stopping rule: correct solutions cannot be identified
- Solutions are not simply “right” or “wrong”
- Each problem is essentially unique and novel
- Every solution is a “one-shot operation”
- No given alternative solutions

Need creativity, innovation, collaboration, etc.

The JMAP process is more suited to Tame Problems



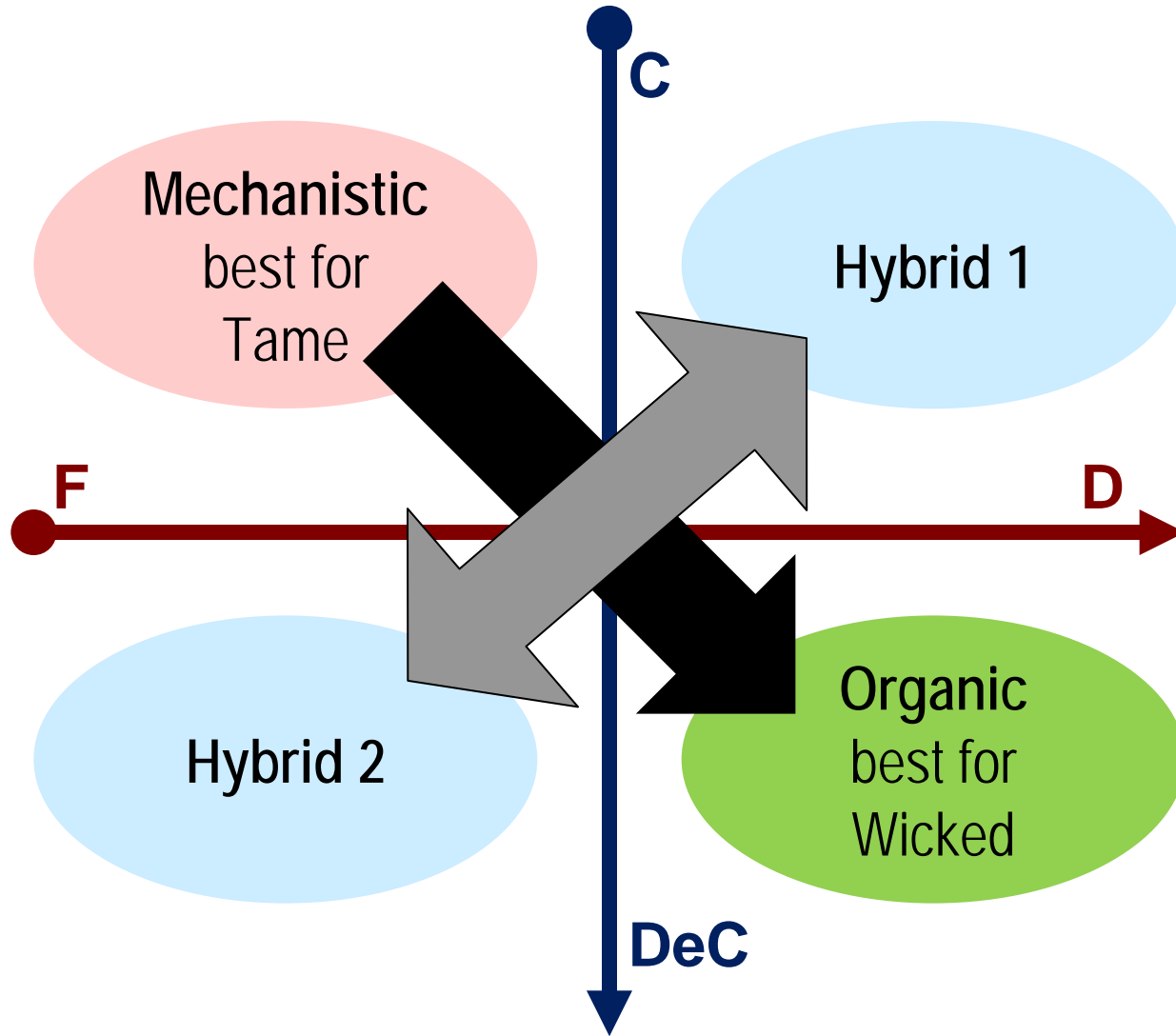
Michigan State University (MSU) Model*



* *Structural Contingency Theory, Hollenbeck, Ellis, Moon, Jundt et al.*



Transition is easiest in one direction





Bounding Wicked Problems #1

Process Adaptability

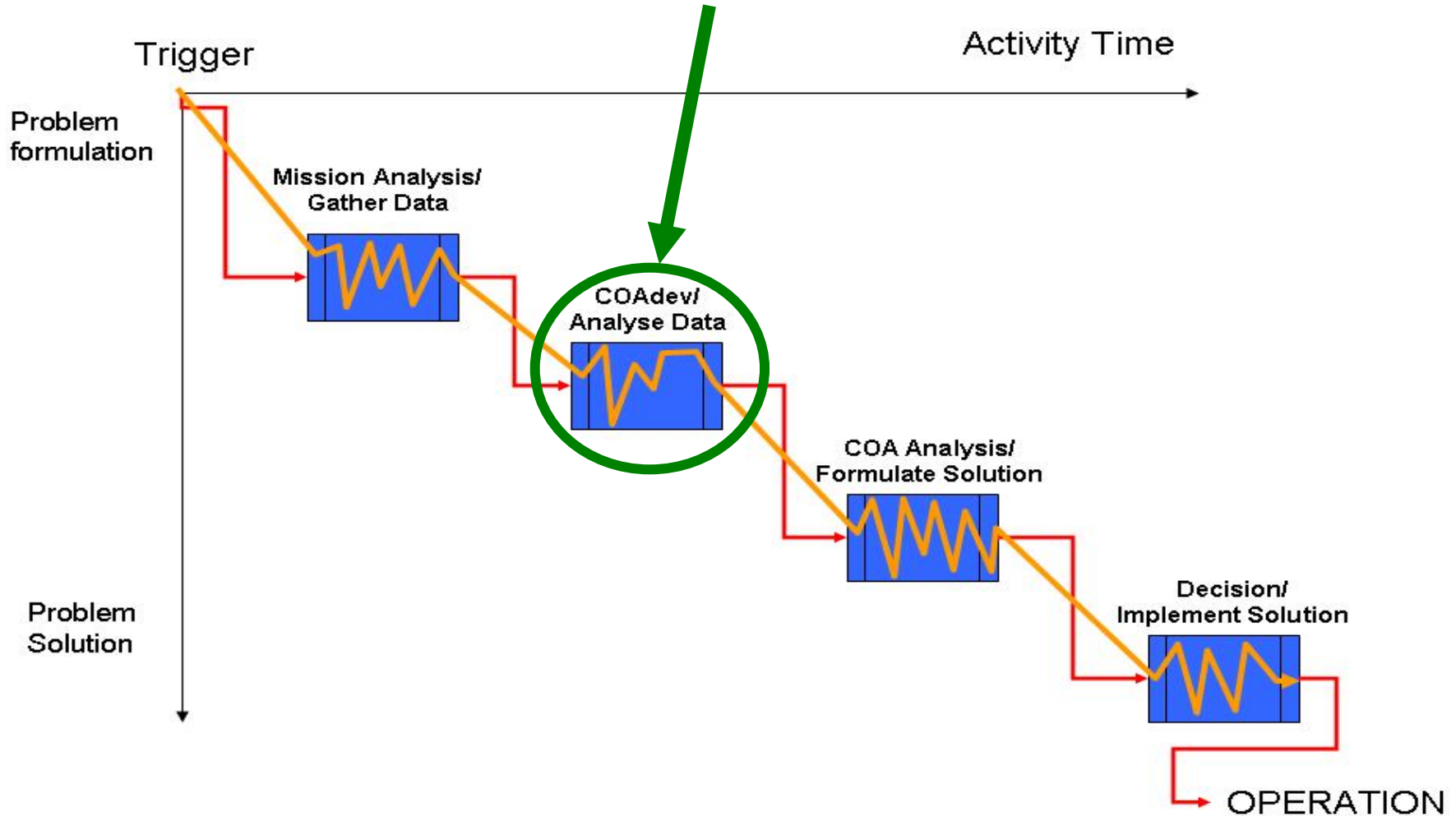




Adaptability within JMAP



Process formalisation “bounds” the nonlinearities – creativity, judgement, common intent





Level of Aggregation as a Lever



- Military planning is a **mixture** of flexible & process-centric work practices
- Process-centric practices define an **outer envelope** for the work – which organisational units should come together, etc.
- Flexible work practices operate within that envelope
- The degree of process-centricity can be **varied** according to the wickedness of the problem
- The commander operates this lever to tune the process



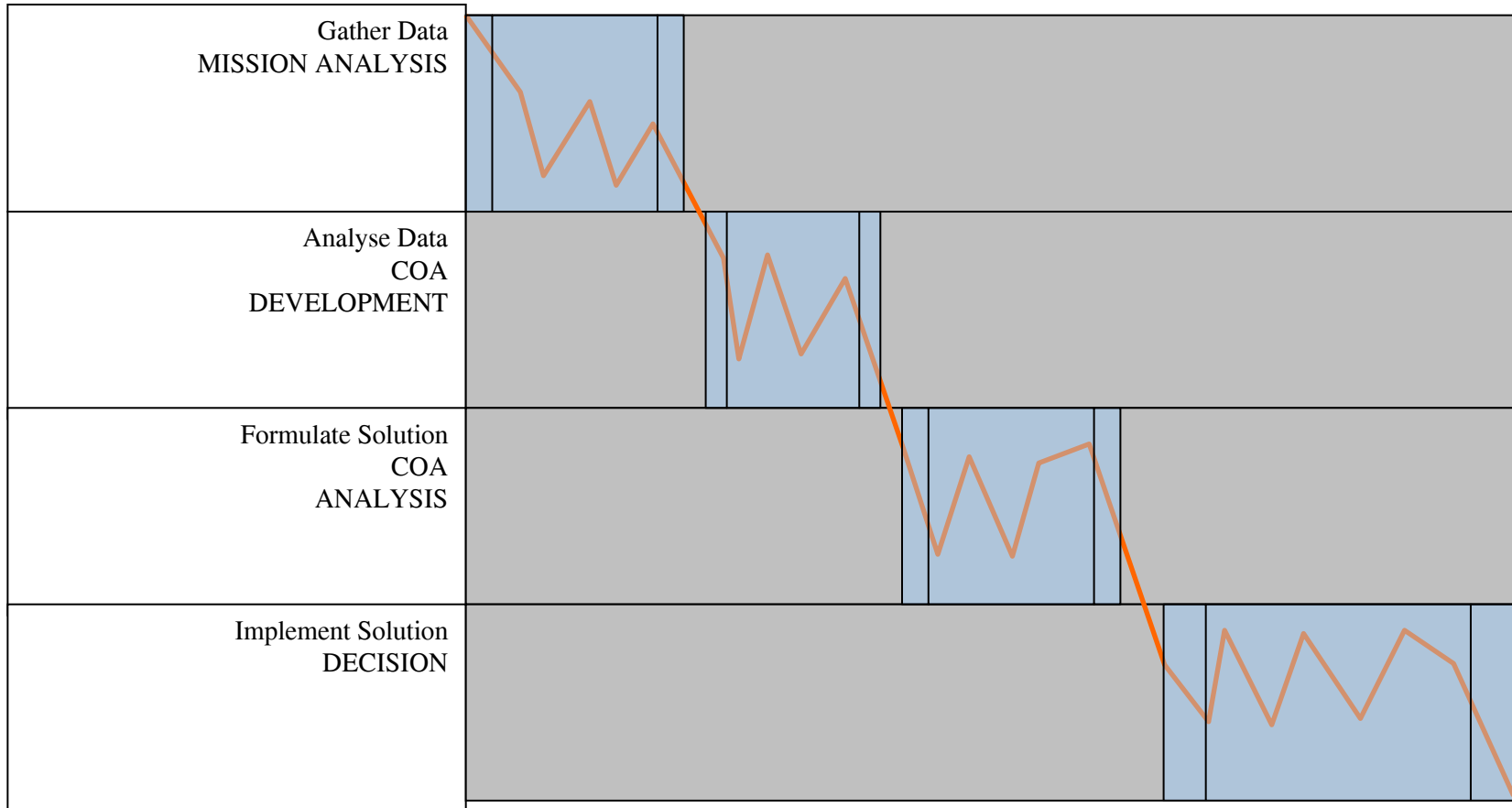
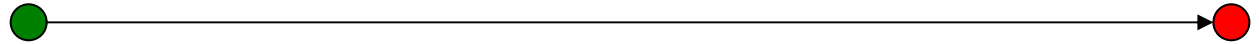
Traditional planning for Tame problems



Stages of Problem Solution

Trigger

Activity Time





Intermediate process-centricity

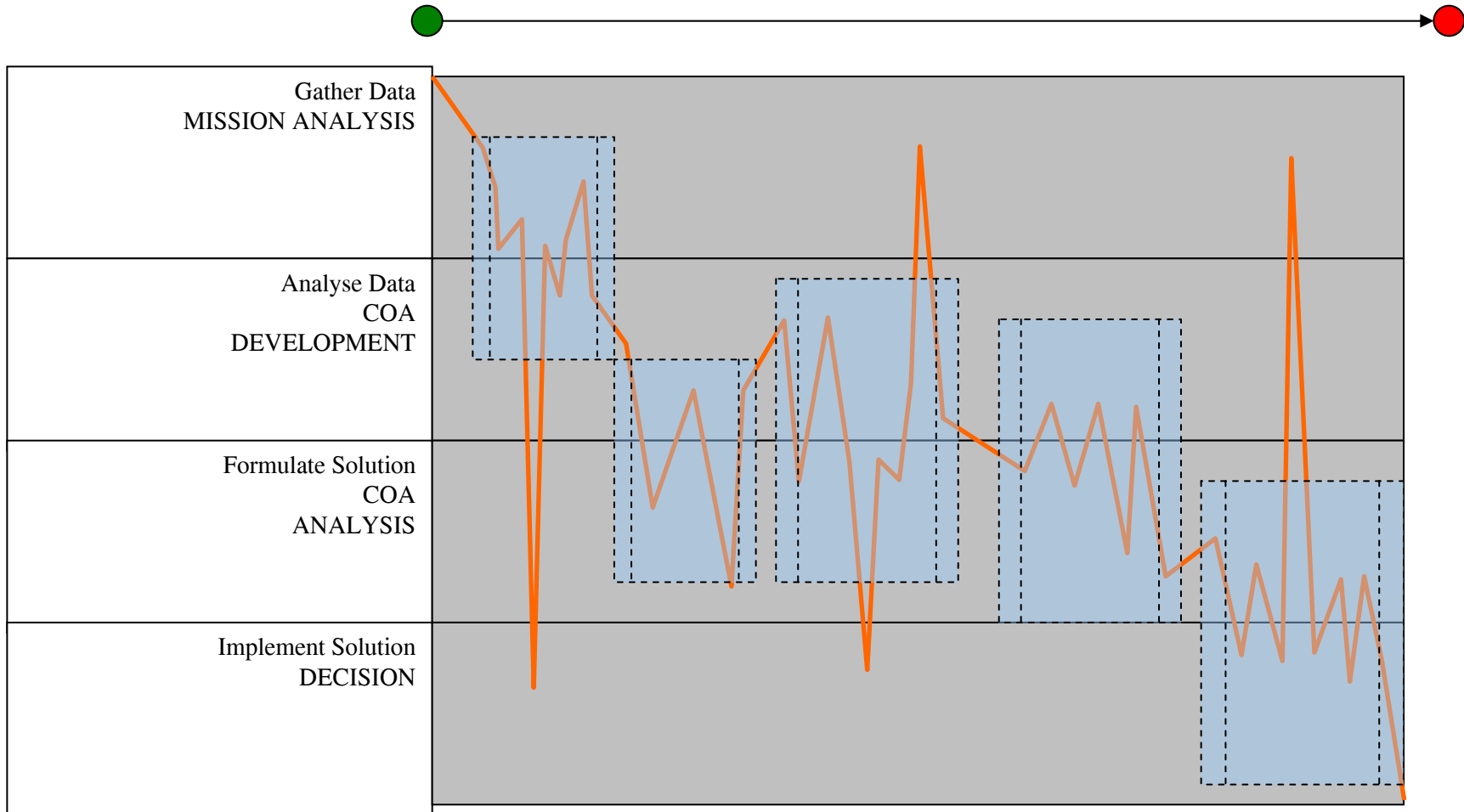


Occasional jumps forward and backtracking:
 “opportunity-driven problem solving” (Conklin)

Stages of Problem
 Solution

Trigger

Activity Time





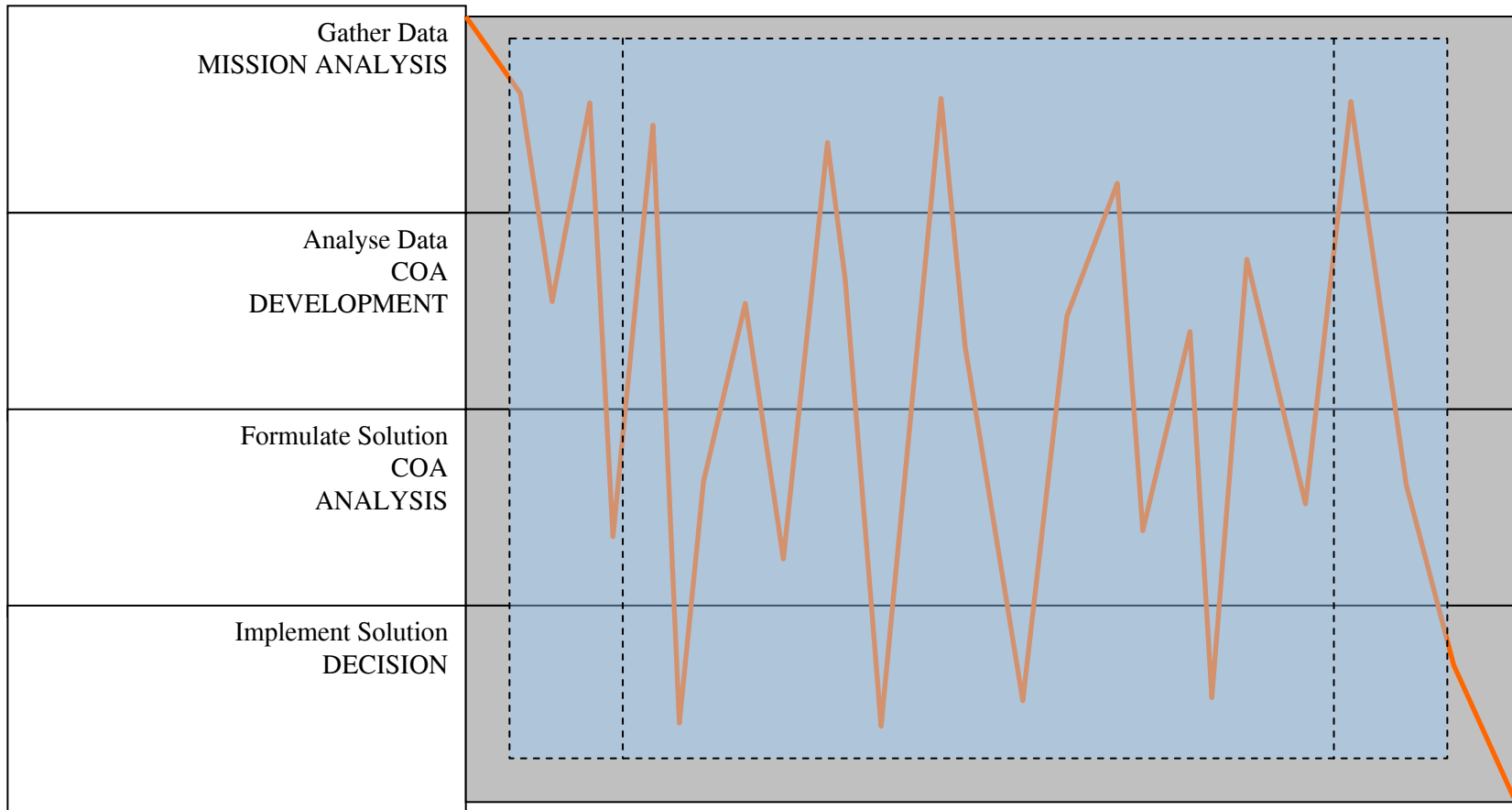
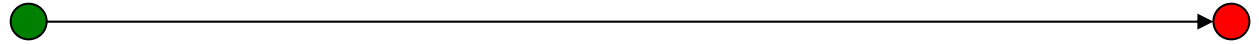
Unstructured planning – Wicked problems



Stages of Problem
 Solution

Trigger

Activity Time





Manipulating process-centricity



- Specifying **number** of discrete stages for planning
- Specifying the **nature** of a planning stage (e.g. Problem Formulation vs Data Gathering for Tame problems only)
- Specifying the **intermediate products** required
- Specifying the **time breakdown** for stages
- Specifying the **diversity of participants** for stages (Wicked problems require a rich spectrum of social complexity)
- Specifying the degree of independent work vs collaboration
- Varying the degree of senior leader involvement



Bounding Wicked Problems #2

Organisational Adaptability

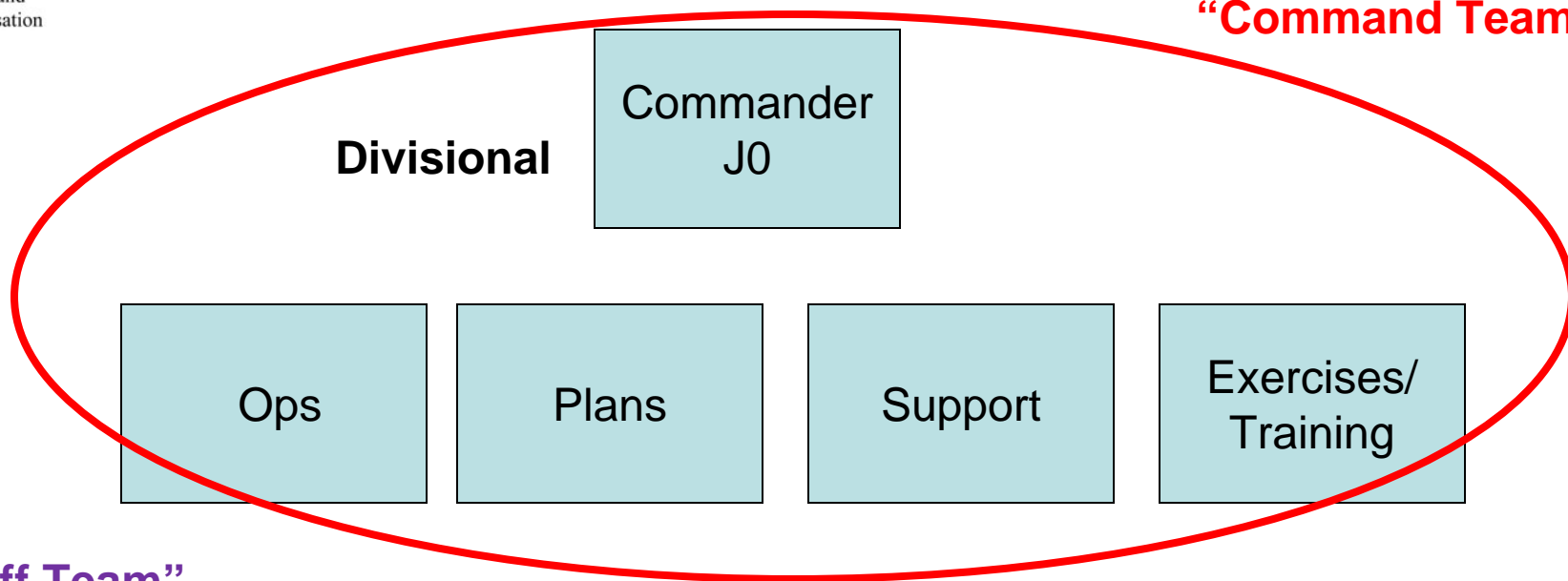




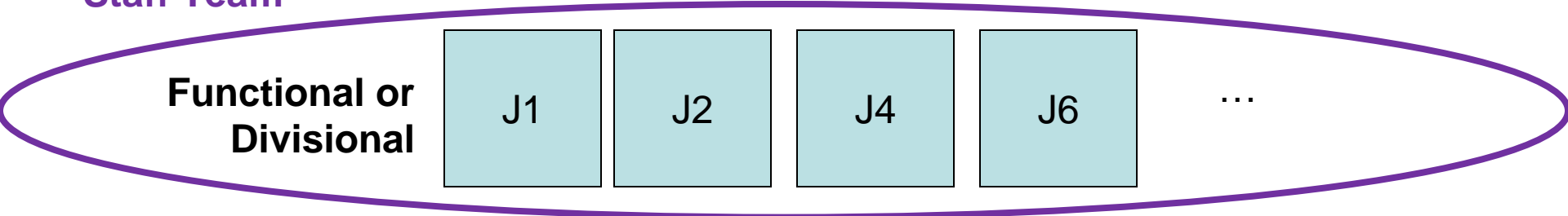
Integrated Joint Operational HQs



“Command Team”



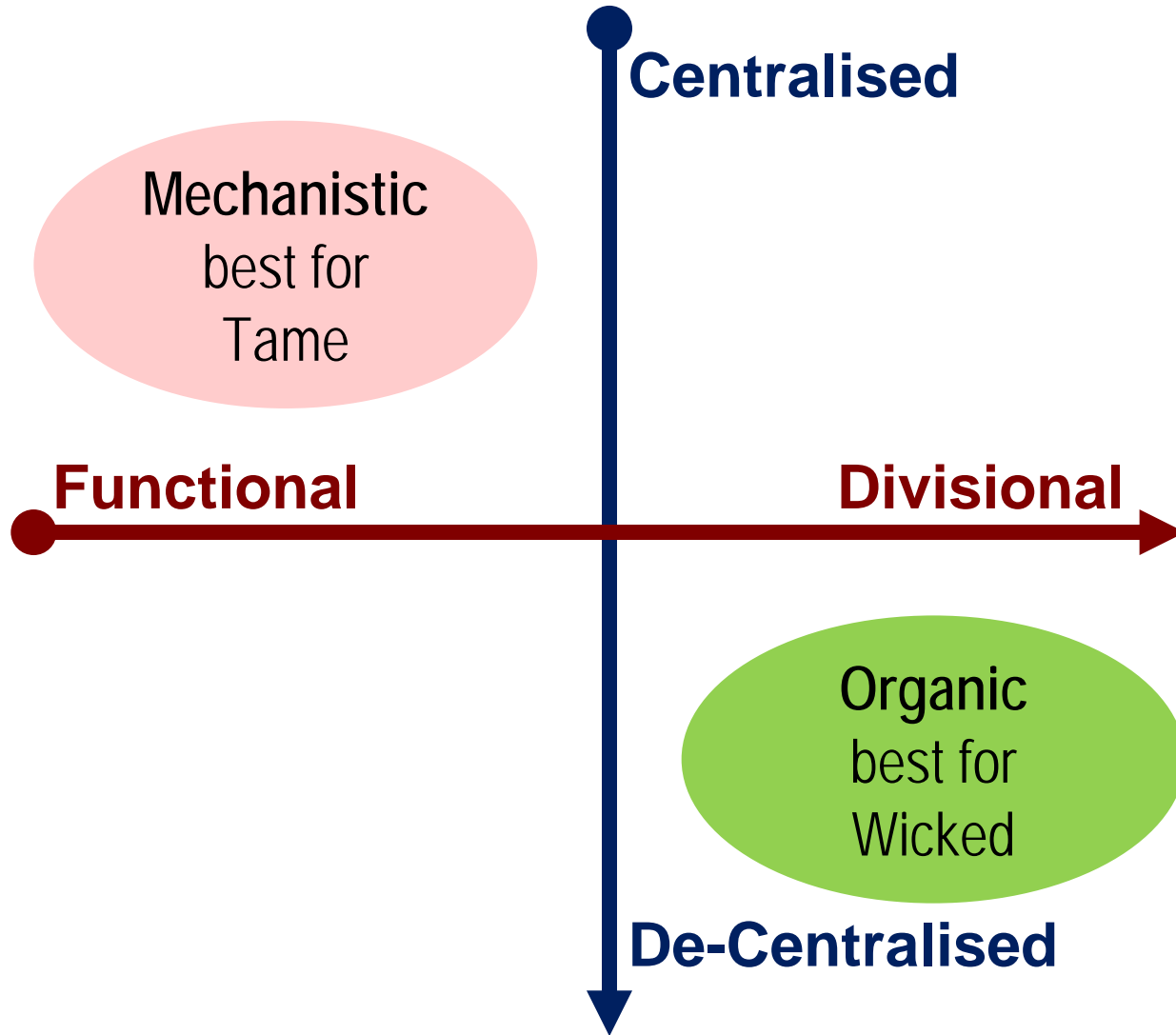
“Staff Team”



Many **small-medium size** Operational Joint Headquarters are **hybrid** from MSU perspective (eg HQJOC, PJHQ, HQJFNZ)

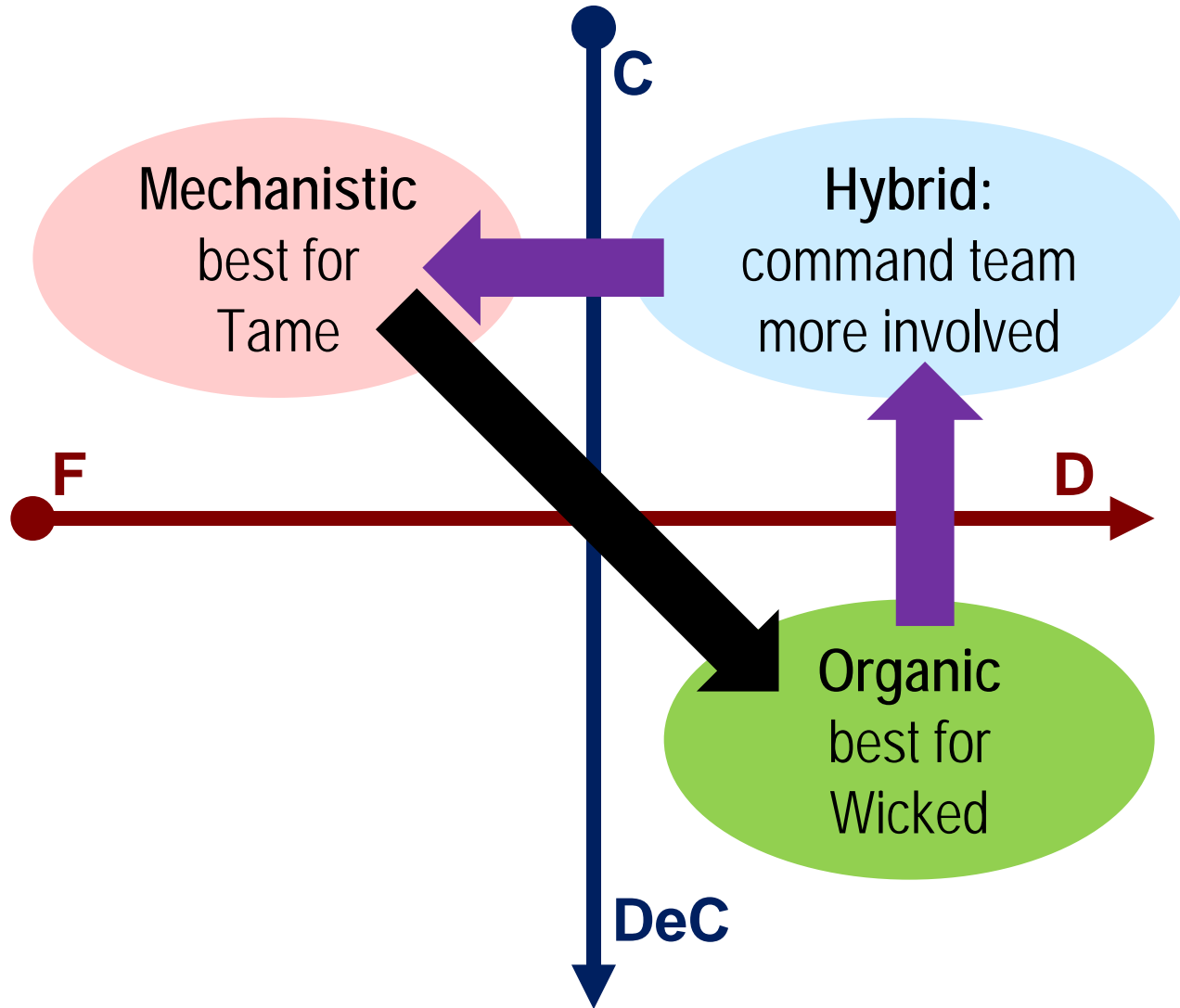


Adapting according to the problem type





Returning to mechanistic mode via hybrid





Guidance on adaptability



- Wicked problem-solving requires **human creativity**
... functions best in a **collaborative flexible environment**
- Creativity is **fundamental** for both commanders and planning staff
- **Common Intent** is the underlying force for convergence
- An **overarching planning process** enables creative focus on particular aspects of the problem
- Both the **degree of process-centricity** and the **organisational structures** need to be adaptable, according to the problem, but according to understood modes
- The **transition process between structures** may need dynamically varying degrees of centralisation (**further experimentation needed**)



Overview of this talk



Goals and Philosophy



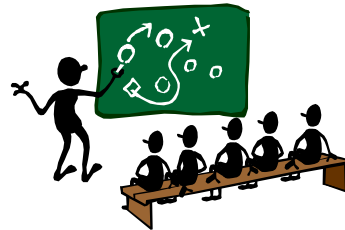
Background Concepts



**Any
Questions?**



Organisational Adaptability



Discussion